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Today's Children Must Be Educated Today

No investment returns to industry, to society and to the taxpayer dividends as high, as certain and as permanent as does the investment in education

By GEORGE MELCHER, Superintendent of Schools, Kansas City, Mo.

IN A democracy, an intelligent electorate is imperative. The stability and perpetuity of society organized on a democratic basis depend upon the universal and liberal education of the masses of the people. The complex industrial and social problems of today demand better educated citizens, leadership with greater vision and more penetrating powers of analysis. Industry is seeking a higher type of worker; business needs direction that does not continually bungle its work.

Human beings do not become efficient, intelligent, productive members of society by accident. They must learn to live properly in society and to become efficient members thereof. There are but two means by which they learn—experience and education.

Schools are the means that society uses for conducting its formal and directed educational program. Schools are in reality the mechanism that society has set up for guiding the young in gaining valuable beneficial experiences, and for training them properly to interpret their experiences and the experiences of others. Schools are admittedly the best institutions that society has been able to devise for the education of children.

Children are exposed to both malevolent and benevolent experiences. Society outside the schools, even when schools are at their best, subjects children to such a multitude of malevolent experiences that thousands of them develop into destructive, antisocial citizens, and millions more into incompetent hangers-on in our social and industrial world.

Without the schools to surround growing children with benevolent stimuli, the thousands of antisocial will increase to millions and the millions of incompetent to thousands of millions, and all the blessings of modern civilization will crumble. H. G. Wells has said in substance that a race is on in this world between education and catastrophe. In a recent research bulletin of the National Education Association we find the following paragraph:

"The desirable economic social and political effects of education are universally acknowledged by men of vision and public spirit. Ignorance never made a good workman, a good neighbor, a good citizen or a good parent. Human assets are of far more vital importance than natural resources and deserve correspondingly more care and thought in their conservation. The special human aptitudes, the technical knowledge and the social intelligence which must constitute the final basis for national economic welfare are highly perishable assets. A single generation of neglect may impair national progress for many genera-

tions. Education is the barrier of defense erected between civilization and savagery. Weaken the fence and civilization falters; destroy the barrier and savagery reclaims humanity once more."

Other civilizations have perished because of inability to guarantee stability. They failed to use wisely and adequately the greatest of all stabilizing forces—education. Shall America also fail?

American Educational Progress Outstanding

A half century ago America was doing her educational job inadequately. A few communities had rather outstanding school facilities but the great majority had relatively poor schools. Few opportunities for training beyond the primary grades were provided and in many communities even the primary schools had a meager educational program conducted by poorly trained teachers.

The progress of education in America during the last half century has been almost miraculous. For example, the attendance of pupils in public high schools has increased from 2 per cent of the pupils of high school age in 1880 to over 50 per cent of the pupils of high school age in 1932. The scope of service in the primary grades has been expanded to include a broad cultural educational program essential to the proper growth and development of all the children physically, mentally, socially and morally, and compulsory school laws have placed all children of school age in school. Excellent school buildings have been erected, representing a total investment of more than seven billion dollars.

Now, with a splendidly equipped school plant, with an efficient educational organization prepared to conduct a program for the protection and improvement of our limitless human resources, some among us are saying that we cannot afford to operate the machinery and maintain the school organizations; that education must suffer the same debacle that industry is suffering. Is this true? Let the following facts answer this question.

In 1930 the total amount spent in the United States for public schools of all kinds—elementary, secondary and collegiate—was $2,615,068,177. The same year the people invested in life insurance $3,524,326,635; in building construction, $5,806,374,417; in passenger automobiles, $11,817,700,000.

Let us assume that the investments in life insurance, building construction and passenger automobiles are all wise expenditures of money. The expenditure of twenty billion dollars in this way indicates that the people do have money for the things that they desire and consider worth while.

Further, it could easily be shown that large sums of money are being spent for luxuries of various types, sums far greater than those expended for public schools. Americans still have large sums of money deposited in savings banks.

Therefore, the money is available to operate the public schools if such institutions are considered worth while.

In 1930 it was estimated that the total national wealth was three hundred twenty-two billion dollars. Possibly one-half of this wealth has slipped away during this time of depression. If by chance the other one-half of the material wealth of this country should disappear before the depression is over we should still have left our enormous human wealth. This human wealth is estimated at $1,500,000,000,000.[1]

Expenditures Increased in Previous Depressions

It is this human wealth that has the magic power to restore our material wealth. If we destroy our material wealth and leave our human wealth intact we may regain our material wealth. If we destroy our human wealth this destruction necessarily takes with it the destruction of all material wealth. Thus it is evident that we cannot afford to allow the machinery that increases human wealth to cease to operate efficiently.

In all previous depressions the United States has found it wise to increase its expenditures upon education in order to increase its human wealth and thus increase its productive powers to the end that the nation might have strength for recovery from the depression. The research bulletin of the National Education Association for November, 1932, states: "During the depression of 1837-43 public school support, both legislative and financial, increased in most states outside the slave holding region. Under the leadership of Horace Mann, school revenues in Massachusetts increased 35 per cent in the seven-year period, and similar gains were registered in other states. During and following the depression in the 'seventies (1873-78) school expenditures rose about 53 per cent. Except at the very end of the period, expenditures per pupil rose year by year. School terms were lengthened, high schools were established and compulsory education laws were enacted."

Fisher, in the English Parliament about 1917, when England had her back to the wall in the World War and was in dire straits financially, declared, "Education is the eternal debt which maturity owes to youth." With forceful logic he convinced the English Parliament that even in a time of adversity England should provide adequately for the education of the young; that the

[1]Dublin, Louis I., Health and Wealth, Harper & Bros., 1928.

adversity of today should not become the tragedy of tomorrow; that the real wealth of the nation was in its youth and that human values were far above financial and material values.

Education is the birthright of every child. No other investment gives greater promise of a better life for the masses of the people than the investment in schools. No investment returns to industry, to society and to the taxpayer, himself, dividends as high, as certain and as permanent, as does the investment in education.

The research bulletin of the National Education Association says further: "Wise expenditure of school money, like other good investments, constitutes no diminution of the national income. Expenditures for schools do not reduce the total amount of income available for spending. Quite apart from the wholesale economic and social effects of education itself, is the undeniable fact that two and a quarter billion dollars spent for education is also two and a quarter billion dollars in national income. It is spent again, and usually immediately, for goods and services by those to whom it is paid."

President Hoover has said, "Education is our biggest job. It is our only indispensable job." President-Elect Roosevelt has said, "Our schools are today enabling America to achieve great results and they can help her to even greater accomplishments. We have faith in education as the foundation of democratic government. Our schools are the state's most valuable asset."

Must Not Delay Educating Children

Education is the safeguard of the nation and is the chief source of the nation's spiritual life, cultural growth and material power. Roger Babson says, "Our great advance in material prosperity can be ascribed largely to the higher educational levels and thinking to which the work of the public schools has raised the masses."

Anything that deprives the young of their opportunities for the growth and improvement provided by the schools is detrimental to society and to the future. The young of today must be educated today. We may delay the building of roads and the construction of bridges but we cannot delay the education of children.

Finally, the above facts indicate that the nation as a whole and the various communities of the nation must not fail to operate their school machinery. They must not sell the birthright of the young. They must not wreck the educational achievements of a quarter of a century and turn back the hands of progress and retard for decades the future growth and prosperity of the nation.

In times of depression people often become hysterical and lose vision and foresight. America under emotional stress could shorten school terms, reduce school service by withdrawing certain types of service, weaken the morale of teachers by excessive salary reductions, lower the quality of school work by overcrowding classes, by employing teachers less well trained and by economizing on equipment and libraries. All such procedures only rob the children.

Rights of Children Must Be Protected

In such times as these, schools must effect every economy that can be made without sacrificing the welfare of the children. It may be necessary to increase the size of classes. Within limits this may safely be done. The quality of work is always menaced by any rapid increase in size of classes. With forty-five pupils to the classroom, two teachers can handle as many pupils as three teachers can with thirty pupils to the classroom. It is highly absurd to assert that these two teachers with forty-five pupils each can render as much service and as good quality service as their equally competent colleagues can with only thirty pupils each. Teachers with forty-five pupils may still render a good quality of service but the service must of necessity, because of excessive number of pupils, be rendered according to mass production methods and many of the finest and most cultural elements of individual and personal growth, development and guidance must be omitted, so that the product lacks some of the finest elements of citizenship and personality, though the pupils may be able to perform quite satisfactorily the main, mechanical operations demanded of their grade.

In this time of economic stress teachers must take some reduction in salaries but excessive salary reductions are soon reflected in the quality of the personnel and in the quality of school achievements. When important types of service are withdrawn, poorly qualified teachers employed and necessary equipment withheld, it is the children who suffer first.

We believe that the American people in this time of depression, as in times of previous depressions, will realize that sacrifices of material things must be made first and that the rights of children to spiritual, social, physical and mental growth must be protected; that the strength and power of America tomorrow depend upon what America does for its youth today; that future America is in the public schools today.

Though taxes may be high, burdens great, money scarce, sacrifices trying, yet youth must have care and protection. America never has neglected and never will neglect its youth.

Wanted—A Name!

The discoverer of a definitely descriptive title for the so-called "attendance officer," whose functions are here outlined, will perform a real service for education

By CHARLES L. MOSHER, Director, Attendance Division, New York State Education Department

EDUCATION needs a new and properly descriptive name for one of her groups of workers. The title "attendance officer" was a great improvement at the time of its adoption over its predecessor, "truant officer." It is now about as archaic and unsatisfactory as was the former term at the time of its displacement.

The modern attendance officer is a school, home, pupil, parent adviser, and an adjuster of difficulties and of conditions interfering with the normal progress of a child in growth and education. His field today is no restricted area.

To deal with basic causes of interference with school attendance, as found in individual children, in their home conditions or in the attitude of parents, requires a superior person. School attendance service should be an important part of the social service program of the school system since through it the schools reach each child of the district and since the attendance officer is equipped with special authority in relation to home and community investigations.

The school and the teacher must daily answer the question, "What does this pupil need?" The pupil's need may be food or clothes or health or a comfortable home condition instead of some item of classroom adjustment. It therefore manifestly may involve many different phases of social welfare work. The medical inspector and his assistants—the dentist, the oculist, other specialists and the school nurse; the physical training instructor; the health teacher; the visiting teacher; the attendance officer, all are working to help the particular child needing aid and adjustment.

Overcoming the Expense Problem

Obviously, to function with success in such a group of highly trained persons, the attendance officer must be of good personality, broad-minded and intelligent and with the will to render the utmost assistance to children needing aid. He needs also to broaden his training by attendance at summer school, at a regular college session and at conferences dealing with the principles and procedures of social welfare work.

School authorities and school administrators sometimes ask how attendance officers with adequate training and experience can be afforded. In smaller systems perhaps the combining of a number of school social service jobs may be the answer. For instance, it has been found that a

Katherine E. Manning, divisional supervisor, Bureau of Attendance, New York City, is shown conducting a hearing at the district attendance office in Public School 11, Manhattan.

Children applying for working papers at the census and attendance office, Troy, N. Y. Each child is interviewed before the paper is granted.

school nurse who is at the same time a fully qualified attendance officer, or vice versa, is a useful faculty member in a small school system. In larger systems the importance of the work to be done should justify the cost. Here there is a somewhat different problem. It is necessary to coordinate effectively the work of the several specialists concerned with the welfare of the individual child if the best results are to be attained. They must work together and in particular they must work intelligently and sympathetically with the grade or home room teacher. If this coordination is neglected, the children are sure to suffer. Examples of such situations are frequent.

At present seven states, Alabama, California, Illinois, Indiana, Kentucky, Maryland and Oregon, express in their statutes the general principles stated above.

California's Requirements Are Stringent

In Alabama an attendance officer is called a county social worker and to qualify as such must meet both the scholastic and other requirements of the state department of education and the personality and training requirements of the state department of social welfare if substantial state aid is to be received. This thoroughgoing set-up resulted from the demonstrated effectiveness of such a combination in actual practice.

California's requirements are the most stringent —certificate of physical fitness; California teacher's certificate; two years' successful teaching or social service experience; a bachelor's degree or three years' experience in charge of a school system with at least five teachers; fifteen semester hours of work relating to child welfare and supervision of attendance.

The Set-Up in Other States

In Illinois the county superintendent appoints a county truant officer who is his assistant and who as such must meet established qualifications. This may not ensure the right kind of attendance service but it seems to make the selection of a suitable man or woman a possibility.

Indiana licenses attendance officers. High school graduates who have completed approved courses may secure one-year certificates, renewable upon a basis of successful experience and further approved study. College graduates are granted two and five-year renewable licenses provided they have studied social subjects or had suitable experience in social welfare work.

In Kentucky the state department of education issues an attendance officer's certificate which is a prerequisite for each candidate.

The appointment of an attendance officer in Maryland must be approved by the state superintendent of education and candidates must have had academic and professional training equivalent to

This shows another step in the general process of conducting a hearing at the district attendance office in Public School 11, Manhattan.

that required for a teacher's certificate of the first grade, that is, graduation from a two-year normal course.

Oregon has set up definite and particular requirements. To be an attendance officer, one must hold a teacher's certificate; must submit evidence of knowledge of social problems, of Oregon laws on compulsory education, child labor and registration, and must prove ability to keep records and make reports of a statistical nature.

In New York State attendance officers in cities, villages of over 4,500 inhabitants, union free school districts and central rural school districts are elected by the boards of education. Elsewhere town officers, to qualify, must have the written approval of the district superintendent and are removable by him.

In Idaho, Michigan, Missouri, North Carolina, Tennessee and Utah, character and educational qualifications which are of a general nature are required.

Libby, in a survey prepared in 1930 (division of attendance, Los Angeles city schools) shows the educational qualifications required in twenty-eight cities. These range from teaching credential, bachelor's degree, special courses in social service work, two years' teaching or social service experience, with city examination, required by Los Angeles, San Francisco and Oakland, and a bachelor's degree with social service training, required in Detroit, Denver, Indianapolis, Seattle, Minneapolis and St. Paul, to two years' teacher or social welfare training beyond high school graduation, required in nine cities; high school diploma required in six; and eighth grade graduation required in four.

That superintendents of schools in New York State are interested in attendance officer service from a social welfare angle is shown by their answers to a questionnaire sent out in 1930 by the attendance committee of the state superintendents' council.

Seventy-four replies checked social welfare experience and 51 checked social welfare training as essentials for attendance officer work, as against 30, 40, 26 and 37 replies checking training and experience in education and law enforcement.

Superintendents agreed that high school graduation should be required in cities, villages and union free school districts.

Sixty replies checked appearance and ability to meet people as the trait most desirable. Cooperative attitude was a close second with 59 checks, while sympathy and resourcefulness had 46; persistence, 41; sense of justice, 40, and self-control, 28. The above would be less interesting were it not for a final item. Five replies checked stern attitude as important. The contrast between 59, the number of superintendents who believe that we must seek the cause where children are in difficulty and secure the adjustment needed, and 5, the number who still think that a stern attitude will effect a cure, is heartening.

The Necessary Qualifications of a Worker

Looked at from a negative standpoint, the following qualities were considered handicaps—lack of sympathy; belligerence; officiousness; bluffing; laziness; leniency. Politics and physical infirmities were also mentioned.

Asked whether they were in favor of having officers attend conferences for instruction in their field of work, 97 replied "yes" and 18, "no."

What sort of person does a man or woman need to be in order to satisfy such requirements?

It is a fair and reasonable principle that the qualifications for any position be determined by the nature of the services to be rendered. Proceeding upon this basis, it is evident that, as in the

case of teachers and other public officers, only persons of character may be trusted to represent the schools. Attendance work to be successfully done must be in the hands of effective individuals whose strength of personality marks them as sincere and reliable.

That attendance officers need active, vigorous health is evident. They must frequently make many calls in one day, work continuously for long hours and at times work beyond regular hours in order to gain their objectives.

Attendance service is to benefit children. Obviously one out of sympathy with children or one who does not understand children would fail in such work. It is the attendance officer's business to find a way to enable Mary Smith to attend school in spite of the poverty of her family, or John Brown, in spite of the illness of his parents, or Fred Jones, in spite of his father's conviction and imprisonment. Clearly the successful officer must want to aid children.

Attendance cases will frequently call for one or another of all the school services available. An officer, to deal intelligently with problems that arise, needs to understand school aims and purposes and school conditions generally, and particularly how to deal with teachers, principals and other school officers.

In spite of the above, the school is not the attendance worker's field of greatest service. Of 150 cases arising in one city in three days, 148 involved family adjustments. A large part of attendance service has to do with homes and parents. Solving a home problem depends upon understanding it. There can be no intelligent guidance unless the basic situation, as far as it affects the child, is understood. To reach such an understanding the attendance officer must be able to win the confidence and cooperation of parents.

Accurate Record Keeping Is Imperative

Often in his investigations the attendance officer will learn of cases that require assistance and adjustment beyond all that the schools can provide. What shall he do? To whom shall he turn? Contact must be made for the family with suitable community agencies and it necessarily follows that knowledge of such agencies, together with a working relation to them, should be part of the attendance worker's equipment.

Unfortunately some cases arise which neither the cooperative effort of community social agencies nor any amount of individual effort can solve, cases in which conferences of those concerned fail to effect satisfactory adjustments and which in consequence must be taken to court. Courts are glad to serve parents, children and schools in connection with cases properly presented, in which other procedures have been exhausted. It is important that the record be accurate and complete, enabling

Part-time school children in Troy, N. Y., assist James H. Lenden, director of census and attendance, in keeping the school census up to date. This practical experience is given to commercial pupils.

the court to see the situation exactly and to understand what has already been done in connection with it.

Finally, attendance workers need ability as accountants lest they be unable to pass on facts to others, and, further, lest through lack of records the same ground has to be covered several times. Simple but accurate accounts of particular case investigations are necessary. Furthermore, census work and census compilations are frequently a part of the attendance officer's job.

The scheme described if carried out would make of the attendance officer a qualified professional worker in education, acceptable in any faculty and contributing equally with other members to the solution of the unending stream of problems that it is the part of the schools to solve.

A Suitable Name Is Needed

This may seem a serious challenge to attendance officers. It may be accepted or rejected, but only through the adoption of some such principles does it seem possible for this important work to take its proper place in education.

Boards of education cannot afford to dispense with such service. To employ poorly equipped attendance officers is to deprive the schools of much needed service in the adjustment of pupils. This is a serious educational loss to all concerned and at the same time it causes financial loss due to absence, to retardation, to repetition of work and to interference with instruction generally. The services of an attendance officer, suitably qualified by education, experience, temperament and character to be an accepted coordinating member of the school group, will result in more effective work in every department.

Evidence that our social problems and crime difficulties come somewhat through lack of early diagnosis of child troubles and of suitable adjustment and early training for handicapped or poorly situated children is available on every hand.

Whether our interest is in society and its need or in the particular child so situated that he cannot grow to useful manhood unless he has help, we must recognize the responsibility of the schools in the matter.

Finding a suitable name for the worker whose activities have been discussed may seem secondary and relatively unimportant. The fact is quite to the contrary. We have only to turn to the field of advertising, with which we are all perforce familiar, to appreciate how important it is that people as well as things be properly labeled. The discoverer of the definitely descriptive title which may be used in this instance will perform a real service for education.

The Value of the Hot School Lunch

During a five months' period, fifty-seven teachers in thirty rural schools conducted hot lunch programs, as a controlled experiment, for the purpose of meeting the nutritional problems most of the children presented.

In the course of carrying out these hot lunch programs the teachers noted the effects of the lunch upon the physical condition of the children and their behavior in the classroom. The results of these hot lunch programs are summarized in the *Journal of the American Dietetic Association,* as follows:

Methods of checking the physical condition of the children at the start and completion of the lunch program varied from school to school, but invariably significant gains were reported for the underweight children. Despite the fact that epidemics of measles and other diseases affected nearly all the children in several communities, the weight gains were maintained. Growth was important, and weight results offered a means of stimulating interest in this one factor.

In most schools there was a significant decrease in absences. Attendance was good even on cold, rainy days, and morale was high. The hot lunch definitely centered the children's interest on the school. Outstanding progress was made in scholarship, demonstrating the close connection between nutrition and retention and behavior. In one school with an eight months' term, the pupils were fourteen and one-half points higher on the "Stanford Achievement Test" than they were the previous year.

The Family Also Benefited

The food served at school was responsible for an improvement in the nutritional value and attractiveness of lunches brought from home. The carry over of nutrition and health information from the school to the family was perhaps the most important effect of the lunch program. Not only did the hot lunches increase the amount of milk each child received daily, but they caused the formation of the milk habit by the families.

In each of the counties where lunch programs were undertaken, the results were so satisfactory, and the interest of parents and local organizations as well as of the school authorities had been aroused to such an extent that definite steps were taken to make the lunches a permanent function of the school. In this connection, a number of school districts planned school gardens. Vegetables from these were to be canned during the summer and used at the school during the following term.

Is the Junior High School a Success or a Failure?

This newer school unit has been opposed by some but evidence offered here shows that it is entitled to fair consideration when curricula are being planned

By CALVIN O. DAVIS, Professor of Secondary Education, University of Michigan

THE junior high school as a separate unit in our school system is about twenty years old. Is it truly meeting the expectations of its original sponsors or not? Is it likely to continue to develop in numbers and influence or will it soon fade out of the educational picture as so many other attempted reforms have done? Finally, if it is to survive, what are likely to be its trends in development and whither will they take us?

These are pertinent questions and they call for answers grounded in objective evidence and expressed in impartial unambiguous language.

There are many who contend that the junior high school has spent its force, that it has served whatever unique but temporary purpose it was once destined to serve and that it is now slowly dying and will soon be only a memory. There are those also who have always been hostile to this new school unit and have foregone no opportunity to condemn it. These friendly enemies are likely to advance the argument that the six-year high school is a much more efficient type of secondary school organization.

Figures Throw Light on the Topic

The six-year secondary school has its place; nor is it a new type in America. The colonial Latin grammar schools and many of the academies that succeeded them had courses of study extending over six or more years. Some of these old-type six-year schools still exist. Further, many of the leaders of the junior high school reform movement have emphatically endorsed the six-year high school, as a physical organization, for certain districts and sections. The North Central Association of Colleges and Secondary Schools has definitely recommended a six-year high school physical organization for school systems that enroll not more than five or six hundred pupils in grades seven to twelve. Such a school unit is vastly more economical than two separate units would be under the conditions named and has, in addition, numerous pedagogical advantages.

On the other hand, many educational psychologists and many practical school men contend that the inclusion in the same school of children of widely varying ages and interests is unfortunate for all alike. When such an arrangement exists none of the groups receives the kind, the variety, or the completeness of consideration that they are entitled to or that is most desirable for them to have. Consequently many of these school men—forced it may be by circumstances to adopt the six-year plan of organization—really are opposed to it on principle as a universal form of high school organization. They fully subscribe to the formula: separate the upper six grades if you can; combine them if you must. In other words, say they, adopt the segregated junior and senior high school plan if circumstances will permit; be content with a six-year unified organization if circumstances compel the acceptance of that form.

What then is the actual situation with respect to the question at issue?

TABLE I—FORMS OF REORGANIZATION

Type of School	*No. in 1922*	*No. in 1924*	*No. in 1926*	*No. in 1928*
Segregated junior high school	387	879	1,127	1,566
Divided junior-senior high school	?	1,383	1,407	1,486
Senior high school	91	181	414	632
Five or six-year undivided high school	?	105	596	1,201
Four-year traditional high school[1]	14,634	15,452	16,815	17,469

[1]From U. S. Office of Education Bulletin, 1931, No. 20, p. 2 and Bulletin, 1929, No. 22, p. 3.

In the United States Office of Education Bulletin, No. 20, 1931, data are given that throw light on the topic. These statistics (1928-30) are the most recent ones available. A total of 22,354 high schools are reported for the United States and of this number 4,885, or 21.85 per cent, had departed from the old 8-4 arrangement and had undergone notable stages of reorganization. How these changes had been made is revealed in the accompanying table.

From these data it is clear that recently the five-year or six-year undivided high school has been increasing more rapidly in numbers than has the segregated junior high school. But this is as it should be. Practically all of the large cities and towns of the United States have completed their reorganization schemes. There is no chance or occasion for them to reorganize now. Indeed, of the 157 cities in the United States having a population of 30,000 or more all but fourteen either have departed from the 8-4 plan of organization or expect to do so soon.[1] Further, says Carl A. Jessen, "The three-year unit is decidedly in the ascendancy. This is true of the segregated junior high school, the segregated senior high school, and the 3-3 plan of junior-senior high school. In all of these situations the three-year unit outnumbers the total of all other classes approximately 3 to 1."[2]

The larger cities having thus completed their reorganization plans it is now the opportunity of the smaller cities and towns to do so. Here the six-year ideal is holding sway, in accordance with the repeatedly expressed opinions of most educational leaders. No doubt this trend will continue since there are still many small school systems that have not been reorganized, in which perhaps it would be unwise to establish anything but an undivided six-year high school.

Cling to Doctrine of Individual Differences

True, no scientific data are at hand establishing unequivocally the fact that 500 or 600 pupils constitute the minimum number for whom a divided secondary school should be provided. On the other hand there are no scientific data that unquestionably establish the fact that a six-year plan of organization is wholly illogical and unpedagogical if the pupil enrollment figures run much above those numbers. Advance reports from the National Survey of Secondary Education seem to indicate that many six-year high schools are being operated with enrollments of 1,200 pupils or more. Whatever may be the reasons for these conditions it is still emphatically true that educational psychology and experimental pedagogy cling to the doctrine of individual differences and suggest that these differences may best be taken into account when children are homogeneously grouped.

In using the statistics quoted from the United States bulletins, one must recognize that not all so-called segregated junior high schools conform to the type most commonly advocated by junior high school leaders, namely, grades seven, eight and nine, although this form of organization outnumbers all of the other segregated types, and includes 1,118 schools, or 71.4 per cent of the total.

A Justification for the Junior High

If two states in which the junior high school has taken deep root—Michigan and Kansas—are considered individually, some interesting conditions are revealed. Michigan has something over 600 accredited public high schools. Of this number 347 have departed from the old 8-4 form of organization—73 are segregated junior high schools, 30 are segregated senior high schools, 125 are segregated junior-senior high schools and 114 are undivided five-year or six-year high schools. Kansas with a much smaller population than Michigan and with a much smaller number of accredited high schools, has nevertheless 165 schools that depart from the old 8-4 arrangement of grades. Of these, 57 are segregated junior high schools, 50 are segregated senior high schools, 51 are segregated junior-senior high schools, and 7 are undivided six-year high schools.[1] It seems obvious here, too, that junior high schools are not decreasing in numbers but that six-year high schools are increasing—because, as indicated, more and more of the smaller systems are transforming their organizations while the larger systems have already finished their tasks.

Leaving the question of organization, let us turn to curriculum matters. It is perhaps here that the junior high school is today undergoing the most varied and far-reaching changes.

If the junior high can justify itself on any grounds whatever it is because it seeks to take gasping floundering youths at just the time when the restlessness of puberty and early adolescence causes them to indulge in visionary ideals, boundless hopes and daydreaming respecting a multiplicity of matters of life, and to guide and direct them into ways of thinking, feeling and acting that may ultimately bring them to destinations where they may find lifelong satisfaction and may make valuable contributions to society. This means the ability to make social and economic adjustments as occasions demand, but this ability

[1]U. S. Bulletin, 1931, No. 20, p. 7.
[2]U. S. Bulletin, 1929, No. 22, p. 3.

[1]U. S. Bulletin,1931, No. 20, p. 4.

in turn is dependent upon knowledge and training —the extent, the depth, and the variety of knowledge and the skill to interrelate it and apply it to complex situations.

To accomplish these ends the junior high school must have a program of studies that is broad and cultural in the best meaning of those terms. General introductory courses as a foundation to more specialized advanced courses rest for their justification upon solid psychologic principles. Specific tryout courses of short duration (yet tied together by common principles of organization and methodology) are approved by the tested experience of practical pedagogy. A fairly extended acquaintance with a few fields of knowledge and a more superficial acquaintance with many other realms of human interest and endeavor are attainments that mark the man of culture and efficiency everywhere. All of these ideals are characteristic of a fully developed junior high school. They represent trends in curriculum adjustments.

A "Fly in the Ointment"

The revived interest in continuity of work for the junior high school pupil has come about because of several factors. The most important one of these is that for larger and larger numbers of pupils this school is serving as a preparatory school for continued systematic study. Such investigators as Koos,[1] Powers,[2] and others have shown conclusively that the junior high school is tending to send forward to the senior high school a larger percentage of pupils than does the unreorganized public school. Such being the case justice to those who thus continue their education requires that they shall be "prepared" for the advanced work as thoroughly as circumstances permit and in accordance with the standards set by the higher admission officials.

The one "fly in the ointment" is that no universally valid scientific data are available to show that for each individual a narrow prolonged course of study yields better results than does a broader and a less continuous course. It may, however, be possible to have length, breadth and depth combined in every junior high school course merely by employing the proper organization of the materials and methods that enter into it. This is what the junior high school is today devoutly seeking. After all, the most significant thing that a curriculum can produce is mental training—the power to concentrate upon a difficult problem, analyze it into its constituent parts, rearrange and classify these in new ways and apply the product to new situations and new problems. This is thinking—the outstanding objective of all formal education everywhere. The true junior high school is more and more emphasizing this ideal.

On the other hand it is still true—and doubtless always must be true—that for large numbers of boys and girls profitable systematic full-time education will terminate at or near the age of fifteen, that is at the close of the junior high school period. Consequently for these pupils a training that finds fulfillment in immediate activities of life must be the chief consideration.

Here, then, in addition to practice in fundamental skills, the acquisition of knowledge in certain common or core subjects, and the opportunity to test aptitudes and interests through exploratory courses, pupils of this group must be given a preview of vocational opportunities and some specific training in occupational work. Hence the trend of the times is to "make the junior high school primarily an institution for the guidance of youth" but to administer this guidance program through a fairly wide range of vocationally elective subjects in the ninth grade or, under certain restrictions, in the eighth grade. Hence the specific trends in junior high school curriculum making is to provide a single prescribed set of subjects for all pupils in the seventh grade, to permit of a choice of a limited number of definitely outlined curricula in the eighth grade, and to open the work of the ninth grade to a wide range of electives selected under careful educational and vocational guidance.

The Ideal Junior High School

But, as the Cleveland bulletin says,[1] "Not only do the pupils need exploratory courses; schools also need to explore and experiment. . . . Progress in the school curriculum, as in everything else, can be secured only through the perpetuation of desirable variations. . . . Cleveland junior high schools constantly are trying out new courses. Generally, these are attempts of individual schools to adapt the program of studies to the needs of the community."

Certainly this is as things should be.

Perhaps Cox has best stated the ideals of curriculum makers of the junior high school. In his "The Junior High School and Its Curriculum" he says:[2] "They (the sponsors and practitioners of the curriculum-emergent) are . . . committed to a curriculum of intrinsic subject matter. They see life as the child's curriculum. They seek to capitalize all that the child may learn in his home and neighborhood, at the movies and in the newspapers, at play and at work, in school and out, in all

[1]Koos, L. V., The Junior High School, pp. 27-28.
[2]Powers, J. O., The Junior High School, p. 40.

[1]The Junior High Schools, 1930-31. Published by the Cleveland Board of Education.
[2]Cox, P. W. L., The Junior High School and Its Curriculum, p. 19.

seasons of the year. They seek, in a word, to help pupils to do better those desirable things they are now doing and which their parents and other adults are now doing, by having the school reproduce within itself situations typical of and supplementary to social life. Through such life-projects, the school may reenforce, guide and direct the present and future interests, activities and standards of boys and girls in their youthful and adult communities."

In another place (op. cit. p. 6) Cox, speaking particularly of the spirit of the junior high school, says: "Furthermore the junior high school's spirit is so catholic and forward looking that it endeavors to help each child succeed always in what he is doing. For it recognizes that continued failure is partial death and that pupils learn only what they practice with success."

This is the ideal; there is much indication that many junior high schools are realizing it. Certainly the trend of development is steadily in that direction.

Another Unsolved Problem

Most persistent of the administrative demands of junior high school leaders is one providing for the complete withdrawal of college influences respecting the work of the junior high school. For years this demand has taken the form of proposals to limit college entrance units to such as are gained in the senior high school. In particular the request is that colleges shall content themselves with requiring only eleven or twelve units gained in grades ten, eleven and twelve. The twelve units should include (say the reformers): two majors of three units each; two minors of two units each; electives. A number of influential institutions have recently gone on record as favoring these changes. It appears certain that progress along these lines will continue.

A second outstanding trend in administrative practice is the policy of requiring junior high school teachers to hold a bachelor's degree from some recognized four-year college. Coupled with this custom is another which demands that candidates shall have more specialized training in subject matter.

Rather commonly in the past, class periods in the junior high school have extended through a full fifty-five or sixty-minute stretch. This length of period was adopted in order to provide time for socialized recitations and directed study activities, it being generally conceded that little or no home work should be exacted from pupils in this school division. Recently, however, there appears to be a notable trend back to a forty-five-minute class period, with a resulting multiplication of the number of class periods in the school day.

Another unsolved problem of the junior high school relates to the homogeneous grouping of pupils. For a time the idea met with nothing but approval. Then certain scientific studies that were made tended to throw doubt upon its value. However, it is very apparent that best results are obtained with pupils when they are grouped according to common traits and interests. Further, evidence seems to be accumulating to show that there is a fairly close correlation of physical, emotional and social characteristics with mental characteristics. Hence homogeneous grouping based on intellectual power is a defensible practice.

Similarly, the junior high home room is today coming in for much experimentation. True, some plan of home room organization is commonly recognized as a *sine qua non* of a junior high school. The question is, what form shall it take? Shall the home room be organized on the basis of sex, on the basis of I. Q., on the basis of chronological age, on the basis of permanency of personnel throughout the junior high school course or on the basis of scholarship? Much experimentation is going on—and rightly so. Indeed, the most noticeable trend in junior high school matters, both with respect to the home room and with respect to all other aspects, is the tendency to experiment.

Experimentation Most Valuable Basis for Change

In conclusion, and specifically in answer to the questions to which this article addressed itself, one may say somewhat categorically:

1. That the junior high school is not dying out but is sharing with others the road to school reorganization somewhat more noticeably than was formerly the case.

2. That the junior high school is meeting with a high degree of success wherever its real purposes have been understood and wherever personal initiative and financial resources have been at hand to carry these into effect.

3. That the junior high school has not in all instances met the expectations of its early sponsors and does not for these individuals hold out much promise at present that it ever can be made to do so. On the other hand, for many the movement is full of hope. These individuals realize that social evolution is a slow process.

4. That many well initiated trends looking to improvements in the organization and administration of the junior high school are clearly visible today but that the most conspicuous trend everywhere is that which is emphasizing educational experimentation as a basis for all lasting change.

The Psychophysics of Health Education

The art of securing desired behavior in man lies in a full recognition and the skillful exploitation of his basic needs and instincts

By IAGO GALDSTON, M.D.
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FOR many years much attention has been devoted to the subject of health education. It has been reviewed and studied from a variety of angles. Much thought has been expended on the nature of its content; on the authenticity of its material; on the curricular sequence in which its fact body should be presented; on the relations it bears to the other subjects of education, and on its varied pedagogic techniques.

Despite these numerous considerations, however, one subject has received but scant attention, and that subject is the recipient of our health education endeavors. Insofar as we have thought of him, we have been largely guilty of a fault that for centuries has been common to science, education and philosophy. Our considerations have been based on the assumption that the individual to whom we address ourselves is a passive entity with a fixed potential, standing like an empty vessel, biding time until we come to pour into him what quantity of knowledge and wisdom we see fit.

Man as an Energy System

I propose to controvert this viewpoint and to establish in its stead the concept of a dynamic being, of a being possessed of momentum, continuous though varying, from birth to death.

In our present consideration, therefore, I shall attempt to give an exposition of the dynamic nature of man and a description, if not a definition, of his psychophysiologic trends, as these pertain to our endeavors.

It is most important that we should appreciate the dynamic nature of the human being. Indeed, it were well if we pictured man as an energy system which, for our purposes, has its inception at the time of the fertilization of the ovum, and which continues in its dynamic destiny until it dissipates its momentum in the course of a full life, ending in senescence and death, or is, perchance, violently destroyed through the intervention of an accident.

This conception is not novel with us. It is fundamental to the modern biologic viewpoint. It is a dominant conception in modern philosophy.

The momentum of the energy system which we call man has an interesting history. According to Minot, 98 per cent of it appears to be consumed in the growth processes antecedent to birth, and most of that which remains is expended within the first three years of life. The evolution and expansion of this energy system is complex. Something of an idea of its complexity may be gathered from the disparate progress of somatic growth from infancy to adulthood. Were the individual to retain his infantile body proportions as he grows to adulthood, he would end as a grotesque caricature of the man we know. His head would be colossal in proportion to his body. His equipment in bone, muscle and vital organs would hardly suffice to assure his survival. In the normal advance from infancy to adulthood, we find that the height of the head doubles, the length of the body trebles, the length of the upper limbs quadruples, as does, too, the weight of the brain, the length of the lower limbs increases fivefold, the weight of the heart increases thirteenfold, and the weight of the lungs twenty times over. On the other hand, the weight proportion of the nervous system decreases to one-eighth of the infantile ratio.

Educational Possibilities Decrease With Age

There is a mental and psychologic counterpart to this disparate constitutional development of the individual. As Professor Hollingworth states, "The mental features (of the individual) show also this development (from infancy to adult life) through change of emphasis and pattern. Interests once dominant fade before new enthusiasms; food, toys, sweethearts, political ambitions, in turn become uppermost in mind. Childish fears dimin-

ish as the hopes of adolescence blossom forth; imagery plays a smaller and smaller rôle, while verbal types of thinking become more prominent."[1]

There are significant educational implications to this pattern of growth and development. Professor Terman calls to our attention the paradoxical fact that "we approach senescence most rapidly in the early years and months and less rapidly as life proceeds. Because cell changes are taking place so much more rapidly in the first decade than in the second, more rapidly in the second than in the third, we may infer that the educational possibilities (considered also in percentile terms) decrease in similar proportion. The mental progress made by the child in the first year is in this sense infinitely greater than that of the tenth or the twentieth year. The possibilities of modifying the growth and the physiologic functioning of the various organs, including the central nervous system, rapidly diminish as the body cells assume their stable and mature characters. For the purposes of education, youth is more important than manhood or womanhood, and childhood more precious than either."[2]

It is with this type of being, dynamic, progressive, moving with a complex momentum, that we deal in our health education, and not with a static, passive individual. We are obliged, therefore, to think not alone of the content of our educational material, of its curricular sequence, of pedagogic techniques and instruments, but also of what is as important as any, the momentum and direction of the individual's progress.

The Batsman and the Billiard Player

If I may be permitted a rather crude analogy to make my point clear, the task of the educator who appreciates the dynamic nature of his pupil is as that of a batsman facing a pitched ball, in contrast to, say, a billiard player who seeks to pocket a billiard ball. In the case of the billiard player, he has a bat called a cue; he has a stationary billiard ball and a fixed objective. The billiard player is primarily concerned with the setting of his cue, and with the direction of his thrust, knowing that he can count on the ball to remain stationary until he is ready to shoot, knowing also that the pocket will not shift and that the billiard table is smooth and free of obstacles.

The batsman, however, is part of a dynamic system. The ball he must strike at comes to him with a speed of its own, with a curvature and flight which he must take into consideration. There is an important time element in his performance. He must swing his bat with all factors taken into consideration. Failing of this, he will fan the air, or else make an ineffective if not defeating gesture.

Fortunately, for the batsman as for the educator, the momentum of their respective objects is not capricious and not infinitely variable. Pitched balls, as individuals, fall into a definite and determinable set of categories. And, dropping our analogy, we know that the momentum and progress of the individual's life follow a pattern which is common to the average being.

Man's Life Has a Common Pattern

Shakespeare in "As You Like It" sections man's life into seven stages. The sociologist, as Kirpatrick does, divides man's progression into several stages, each marked by an increase in the social horizon and prosocial attitude, behavior patterns of the individual. The psychologist traces the stages of advance in the emotional, intellectual and psychologic functions of the individual from infantilism to adulthood, and all—the dramatist-philosopher, the sociologist and the psychologist—agree that there is a pattern to man's life common to most individuals. It is the existence of this pattern that makes possible the science of applied psychology, to which, indeed, our consideration belongs.

The intent of education, in the last analysis, is to develop and direct the functions of the human being. In this connection it is important to appreciate that the educator is limited in such endeavors by the individual's inherent and potential capacities. We cannot teach an individual to receive the ether waves of a radio broadcasting station with his auditory nerves. They lack the capacity to do so. Nor can we teach an individual to fly by the unaided movements of his limbs. We cannot teach a child the quantum theory before he has a working knowledge of language and an appreciation of mathematics. And as we have been so well taught by Terman and others, there is a binding limit, set by given intelligence, in the educability of any individual.

Educational endeavors, of whatever sort, can be successful only as they are adapted to the native and individual capacities of the pupil, in whatever stage of growth and development we find him, and from this we draw the corollary that educational endeavors promise to be successful to the extent that they are in harmony with and parallel to the given trend of development and momentum of the individual. From this viewpoint it becomes the obligation of the educator who is confronted with the task of affecting the behavior of a group of individuals, to determine first the direction and the character of the momentum of each individual's developmental progress, and to adapt in terms of these determinants the content, the

[1]Hollingworth, H. L., Mental Growth and Decline, 1927, p. 10.
[2]Terman and Almack, The Hygiene of the School Child, 1929, p. 27.

methodology and the psychologic approach of his educational endeavors.

These considerations must be accorded to every aspect of and every item in health education. They should enter into the organization of the content of health education, the sequence in which the factual material is presented, the vehicles through which it is expressed and the pedagogic techniques that are employed. But pertinent as they are to all health education endeavors, they are of dominant significance in what is technically designated as motivation. We know so well, and so often to our sorrow, that there is a vast difference between the possession of knowledge and the application of that knowledge to our individual lives. The transformation of knowledge from a mere quantitative possession to a driving force in life is accomplished largely through the agency designed as behavior motives, translatable into simpler terms, such as desire, wish, emotion or feeling.

Our health education is perhaps weakest and least effective in its motivation. And it is in this connection that a full appreciation of psychophysics would profit us most. The question before us is, How can we affect the behavior of the individual along desirable lines? I am taking for granted that we have a definite understanding of what constitutes desirable lines and also that we are capable of presenting our views on this to the individual whose behavior we wish to influence.

What, then, is the secret, if a secret it be, for securing desired behavior? This problem has faced mankind since the dawn of intelligence. It has occupied the greatest thinkers the ages have known.

Three Sciences Hold the Answer

It is only since the development of modern science, through the brilliant growth of biology, through the work of such men as William Harvey, Thomas Willis, Albrecht von Haller, Sir Charles Bell, Luigi Galvani, Alessandro Volta and Claude Bernard, biologists, anatomists and physiologists who contributed so substantially to the upbuilding of our present day knowledge of the structure and functions of the living body, that we seem to have found, if not the source and mainspring of human behavior, at least some fragmentary indications as to how human behavior is motivated. To the work of Thomas Willis, Claude Bernard, Brown-Séquard, Walter Holbrook Gaskell, John Newport Langley, Paul Broca, Sir Charles Sherrington, Ramon Y Cajal, Ivan Petrovich Pavlov, C. Judson Herrick and a host of other men, we are indebted for our specific knowledge of the structure and the functions of the nervous system and for the present science of psychophysics or physiologic psychology.

This latter group of men has given us a knowledge of the mechanisms of the nervous system and parallel with them there has grown up an extensive school of psychologists who have studied and analyzed the qualitative workings of the nervous mechanism.

It is in the sciences of biology, neurology and psychology that we must expect to find whatever answer can at present be given to the problem of motivation. With a fuller appreciation of how human behavior is natively or unconsciously molded, we may be in a position to determine how we may artificially or deliberately influence it along desired directions.

Basic Needs Govern Man's Behavior

A working knowledge of these sciences must hence be considered a prerequisite for the health educator who is responsible for the initial formulation of health education plans and curricular procedures.

Let us not, however, sing the praise of these sciences, but let us rather see what they teach us about motivation. Let us recall that we have agreed to view man as a dynamic energy system, with a continuous though varying momentum. Let us recall, too, that this momentum is expressed and dissipated in a given pattern common to the average individual. Let us also recall our simile of the batsman facing a pitched ball. From all of the aforegoing considerations, then, it follows that our efforts to influence the individual's behavior must be based upon the capacities, trends and progressions of the individual, that in attempting to deflect the progress of the individual in a certain direction, we must know what his initial trend is, and also where we may apply whatever forces are necessary to drive him along a new tangent. Our imposed motivations, in other words, must be based upon and can be engendered only through a manipulation of the native motivations behind man's behavior.

Man's behavior is pointed by his fundamental needs. A need is defined as an internal disequilibrium which, if unremedied, may and frequently does deleteriously affect the individual's continued existence.

The fundamental needs of man have been defined as three in number, namely, food, sex and society. But on these primitive needs there have been grafted, perhaps by experience and by the consequent evolutionary development of the nervous and endocrine systems, certain secondary needs. All of these may be collectively termed man's fundamental instincts. I am using the term instinct not in the sense of the neurologic psychologist, not as an unlearned pattern of behavior, but rather as

drives, as it is employed by W. McDougall in his "Outline of Psychology."

McDougall lists fourteen basic instincts and gives their emotional qualities. This list of instincts includes: (1) instinct of escape (of self-preservation, of avoidance, danger instinct); (2) instinct of combat (aggression, pugnacity); (3) repulsion (repugnance); (4) parental (protective); (5) appeal; (6) pairing (mating, reproduction, sexual); (7) curiosity (inquiry, discovery, investigation); (8) submission (self-abasement); (9) assertion (self-display); (10) social or gregarious instinct; (11) food seeking (hunting); (12) acquisition (hoarding instinct); (13) construction; (14) laughter.

An Effective Approach to Motivation

It is evident that McDougall's list of fourteen instincts is but an extension and a subdivision of the more universally accepted basic human needs of food, sex and gregariousness. These needs or instincts are the driving forces behind and the motivations of human behavior, biologic, individual and social.

Whosoever seeks deliberately to motivate human behavior along given directions must harness man's basic needs and inborn instincts. The art lies in a full recognition of these needs and instincts, and in their skillful exploitation.

For the ends sought in health education, the greatest profit will be found in harnessing the instinct centered about gregariousness, which includes a number of so-called secondary instincts, particularly those that involve the ego of the individual, such as the displeasure associated with individual and social disapproval, the satisfaction that comes from being admired, approved and praised, the need to be loved, in the large libidinous sense, the need to love, sympathy and the like.

There is a significant witness to the effectiveness of this approach to the problem of motivation in the commercial advertising that we see all about us. Much of this advertising is formulated with a rather keen appreciation of man's gregarious nature, and with a knowledge of his weakness before and his submission to the uniquely human phases of gregarious living. Custom and precedent are significant expressions of the excrescences of man's gregarious existence.

Styles and customs are made at times by what appears like blind forces, at other times, as our advertising and public relations counselors know so well, by deliberate manipulations. A variety of so-called antiseptics have been sold to the public to the extent of millions of dollars, simply because the advertisers know that no man would willingly offend the nostrils of his neighbor. How many millions of dollars have been and are being taken annually from the public through the sale of nostrums and quack products which promise beauty, health and a pleasing personality? It has, I think with justice, been pointed out that if the American public, and particularly its female half, has paid increasing attention to its teeth, it has been largely because clean and beautiful teeth have become stylish.

If we cannot learn to appreciate the nature and the technique of the problem of motivation, we could at least in our health education endeavors learn from our friends, the advertising promoters. Man has many needs. Let us harness them for our ends. Man is curious. Let us stimulate his curiosity and feed it with salutary knowledge. Man has the instincts of combat and appeal, of submission and assertion, of inquisitiveness, constructiveness, laughter. There is the parental instinct, and a great need for food, for sex, and there is the driving force of self-preservation.

These are the means for motivation in health education, as in all education. But for our purposes, skill must be exercised in the handling of these means. There is nothing teleologically conserving in the operation of man's instincts. They are like the defensive mechanisms of the body, as likely to become anaphylactic as prophylactic. Curiosity may be manipulated to the moral and spiritual abasement of man or for his elevation. Indiscriminately, man appears as inclined to gaze upon a surreptitiously taken photograph of the electrocution of a female as on a schematic drawing of an electron. A notorious bootlegger may be made the subject of hero worship. The plucky adventure of an aviator may be made to rank as the greatest achievement of any single man in the given age.

The Secret of Influencing Human Action

But man is not natively perverse, any more than he is natively noble. He merely is. Within him are resident a given set of potentials that are subject to manipulation by those who are skilled in the art, for good or for bad.

It is this realization I hold basic to any appreciation of the psychophysics of health education. It is in this appreciation and in the knowledge of man's dynamic nature, of the trends of his individual growth, of the motives behind his behavior, that we shall find the secret for motivating human action along desirable ends. It is thus that we shall be enabled to prepare the educational pabulum which we feed the young, and to transform knowledge from mere quantitative possession to a dynamic and guiding force in the life of the individual.

Modern Decorative Methods Beautify Concrete Interiors

By SUSA P. MOORE, Chicago

BUILDING achieves the versatile stage of creative architecture when basic structural forms are adequate and pleasing, when rhythm is secured, and when craftsmanship in the materials used is sufficiently expert to handle the plan with some play of fancy. By these standards concrete construction has proved its value. The many examples that are to be found of new and changing types of concrete construction express progress in this method of building.

There was some promise of new styles of architecture in the earliest use of concrete. Its massiveness and purposive method were the actual forerunners of modern functional building. Its broadly flung walls and its dearth of ornament ushered in the idea of simplification which is the keynote of successful modernization. The earlier concrete buildings were honest and uncompromising. They opened new fields of economic thought.

Untreated concrete is a natural substance. Skilled workmanship and a good plan can make it fit any environment. The close parallelism between the roughening and pricking up of this surface and the earlier arts in plaster inspired the early workers in concrete to experiment with different mixes and, particularly in the less heavy mixtures, interesting wall textures soon appeared. Tooling was done, surfaces were antiqued and earth colors were added in order to soften the outlines of structures or to give them accent. Brick and stone combinations were employed to please the eye, then cast concrete in smaller units was used to break up vast wall expanse, and later the adaptable colored tile, cast figures in art marble and ceramic ornament developed a wide choice of vehicles for color in the concrete building.

The same forces have been at work on the inside of concrete structures to achieve that feeling of

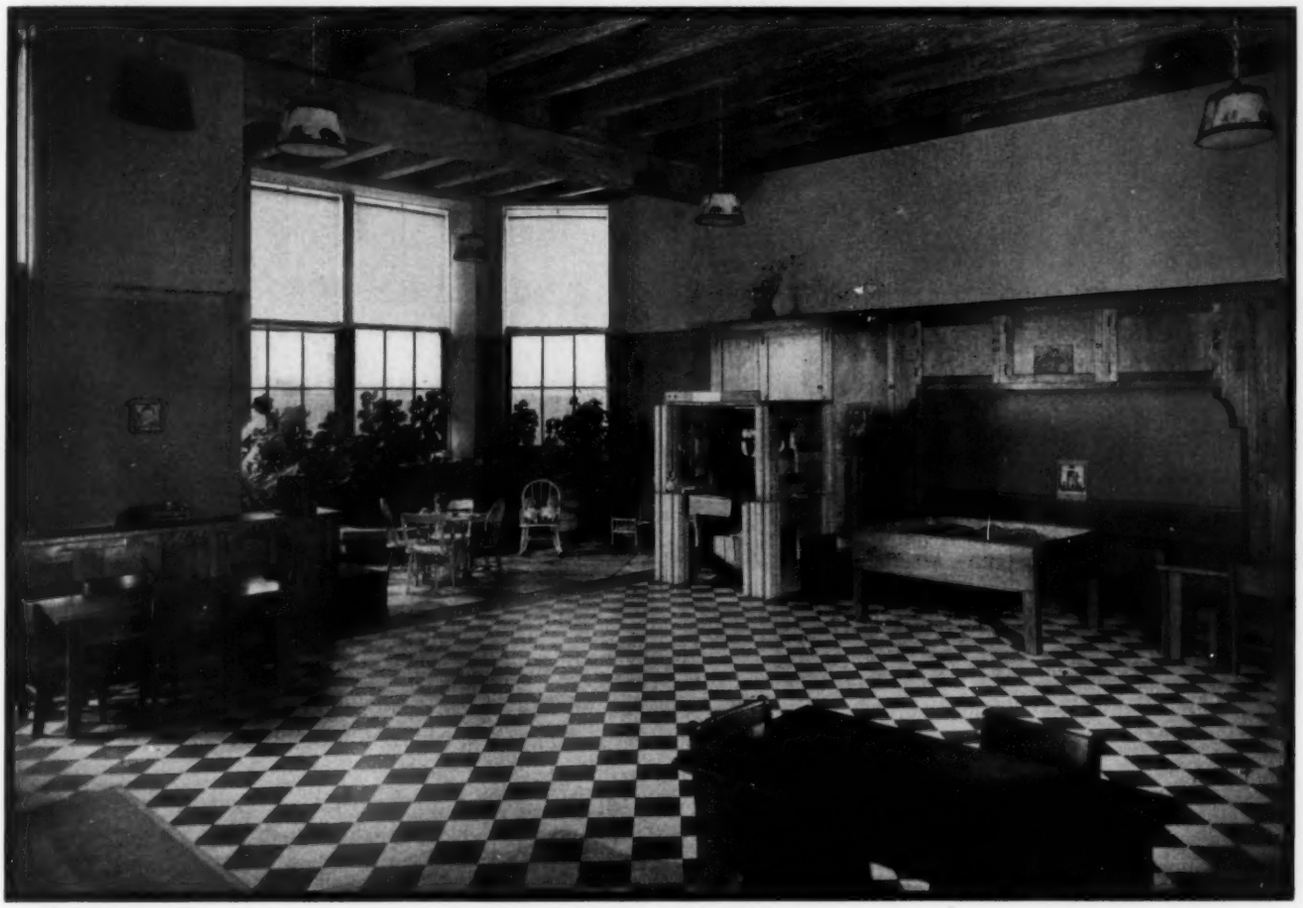
The manner in which a plain line decoration may be applied to concrete beams is illustrated in the first floor corridor of Lincoln School, Evanston, Ill. The ceiling color is dark brown, and an acoustical material of a similar shade gives softness and depth to the ceiling space. The beams are lighter in tone.

intimacy which is the final test of acceptability in a building.

Individual comfort would seem difficult to achieve in a poured concrete building, but success has been achieved in the design of such buildings through the employment of the decorative arts.

It is interesting to examine the manner in which concrete beams have been treated in school building work by a Midwestern architectural firm. Instead of using the hard, smooth type of moulded concrete beams, these architects build special wood forms that are hand made. The wood used is selected for its roughened surface and perfect grain. The concrete is carefully puddled so that it will completely fill the forms, because any imperfection in the grained surface cannot be patched and made to match the pattern. When the forms have been removed and the concrete has dried the beams are stained to carry out the appearance of a timbered roof. The finish is both permanent and beautiful. The slightly roughened surface may be done in a two-tone antique effect, or the treatment may follow the early examples of wattle and dab plaster work where the surface design was made by the bark of hazel rods. The irregular effect of this type of plastering is pleasing. It registers the immediate situation that confronted the craftsman and his individual solution to the problem. Rough surfacing and varied finish in concrete are equally valuable in giving individuality to a building. The personality of the craftsman cannot be divorced from a building without the penalty of loss of good art results.

In the library of Lincoln High School, Wisconsin Rapids, Wis., the beamed ceiling is smoothly finished and the surface is given the appearance of hand rubbed, finished wood. It is a logical treatment for this library. The forms used were appropriate for carrying out the appearance of wood beams and girders.



The ceiling of the kindergarten of Madison Elementary School, Hinsdale, Ill., is grained and stained to give the effect of weathered oak.

Once the ceiling is surface treated and decorated, the embellished wall is permanent. Maintenance is practically eliminated.

In the auditorium of Nichols Intermediate School, Evanston, Ill., the proscenium arch is done in old gold. The walls are dull blue, jaspé. The wood wainscoting and seats are walnut. The draw curtains and valance are Egyptian blue. Both the sides and soffits of the girders and beams are decorated with stencil designs in old blue, green, dull reds and gray. The ceiling space is finished in plain walnut tones.

Rich decoration and various colors are applied to concrete in the auditorium of Nichols Intermediate School, Evanston. Both sides and soffits of the girders and beams are decorated with stencil designs.

The first floor corridor of the Lincoln High School is an example of how a plain line decoration may be applied to concrete beams. The ceiling color is dark brown. A dark brown acoustical material gives softness and depth to the ceiling space. The beams are lighter in tone. The colors in the floor, the window panes and the tile in the wall panel repeat the tones in the stencil pattern. The scheme of color harmonizes with the permanent structural features. The various tones and patterns bind the space together into one harmonious whole. The colors are flat treated. They do not imitate anything nor do they seek to create false impressions.

The auditorium ceiling at Cossitt Avenue School, La Grange, Ill., illustrates the value of color patterns to break up into smaller units a broad expanse of ceiling. Untreated flat ceilings give the appearance of being lower at the center. Moderately low ceilings need to be scaled in color tone in order to bind the space to architectural features and achieve lightness toward the center space. The desired effect has been secured at the Cossitt school by means of a repeated pattern and by separate repeated units of graded color. The mouldings are distinct but they are not elaborated, and the mechanical symmetry of the design is further emphasized by color tones.

"It is a highly fascinating art to treat walls direct for decorative purposes," one architect has stated. "When our first experimentation was undertaken with decorative patterns on concrete, the method called for six coats of paint and varnish to get the surface in shape. Improvements in concrete paint now give the same result with two coats of concrete paint and one coat of glaze. The glaze may be wiped out or it may be grained to match the various woods. Finally, one or two coats of varnish are applied, the last one dull, for wood effect. No decorative work is undertaken until after at least a six months' drying period.

"Pleasing and simple effects may be achieved in great variety by simply applying flat paint, antiqued. Color contrast is secured by an added line. This ties the ceiling in with the walls and floors. In the more elaborate stenciled or hand decorated ceilings flat surfaces are either accented or recessed, according to the requirements.

What the I. Q. Means Today

Mental tests serve better than anything else in predicting accurately enough for practical purposes the future development of the child

F. KUHLMANN, Director, Division of Research, Minnesota State Department of Public Institutions, St. Pau

AFTER twenty years of mental testing there are still many persons who believe that intelligence cannot be measured until we know what it is.

The I. Q. introduced by Stern in 1912 is a measure of the rate of mental development, using the total mental development for a year as the unit. Dividing mental age by chronological age to get an I. Q. implies that the year's mental growth of the average child may be treated as a unit. Thus we come to define intelligence as a rate of development, or as something of which the rate of development is a direct expression, varying as intelligence varies. We need to know no more about the ultimate nature of what it is that develops, in order to measure it. We need no "factor G," or other definition of intelligence, and it would be of no great practical value if we had it. We have accepted the pound and the ampere without worrying about the ultimate nature of gravity and of the electric current. We measure effects, not causes, in both the mental and the physical. We shall discuss the I. Q. as a measure of intelligence, defined as rate of mental development.

The Promise of the I. Q.

From the outset of mental testing the predominant assumption has been that intelligence in a given individual is a fixed quantity. One is born dull or bright and will remain so. He may learn much or little in a lifetime, but his intelligence remains the same. If this is the case, and if we can measure intelligence, the figure expressing that measurement for a given individual should remain the same throughout life. Such was the hope and the promise of the I. Q. The characteristic trend of the two decades that followed its introduction has been an uncritical acceptance of the I. Q. rather than a rational and scientific attack on the problem. But the vast amount of data accumulated from routine testing, with an occasional direct approach, has led to frequent discussions of the question, and we are not without some definite conclusions.

There have been different views on the meaning and value of the I. Q. from the outset, and, while there can be no doubt about the final outcome, the end is not yet in sight. Let me, therefore, treat the subject somewhat historically and recall some of the highlights of the period.

Some Historical Facts

Stern suggested the I. Q. method because the first crude attempt to find a measure of intelligence in the difference between chronological age and mental age was obviously unsatisfactory.[1] A year's difference was at once recognized as being smaller the older the child in question, because the rate of mental development slows up, making the normal yearly increment smaller and smaller. That the I. Q. should be faulty for exactly the same reason was not so obvious, and indeed seems not to be recognized even now by many after twenty years of discussion. Stern noted, however, that on the reexamination of subnormal children the I. Q. showed some tendency to decrease for the reexaminations. He thought this was due to an earlier cessation of growth in mental development for the subnormals, and thought that therefore the I. Q. would doubtless be quite invalid for the exceptionally subnormal, such as imbeciles and idiots. Presumably this might have led to the further assumptions that the rate of mental development slows up still more in subnormals as they approach maturity, as well as ceasing entirely earlier, and that for children above the average the opposite would be true. This would result in the I. Q. decreasing with the subnormals and increasing with the bright because their actual intelligence, when expressed in terms of rate of development, changes with increasing age. But this would not invalidate the I. Q. as a measure of intelligence. It would be invalidated if it did not change under these circumstances.

Before Stern's publication appeared proposing the I. Q., I was dividing mental age by chronological age, and using that ratio to compute the final mental age for the age of fifteen, and recommended

COMPARING CONSTANCY OF I. Q. WITH CONSTANCY OF HEINIS CONSTANT

		Age 7	8	9	10	11	12	13	14	15	16
Borderline Cases	I. Q. on Retest	.83	.81	.79	.78	.76	.75	.73	.71	.69	.66
	Heinis Constant	.89	.89	.88	.89	.89	.89	.89	.89	.88	.88
Moron Cases	I. Q. on Retest	.66	.64	.63	.63	.62	.60	.59	.57	.55	.53
	Heinis Constant	.77	.77	.77	.78	.78	.79	.80	.80	.79	.80
Imbecile Cases	I. Q. on Retest	.42	.41	.40	.39	.37	.36	.34	.33	.32	.30
	Heinis Constant	.55	.55	.56	.57	.57	.57	.57	.58	.57	.56

that this predicted final mental age be used as a basis for comparing and classifying children.[2] This was done because I had found that this ratio remained fairly constant on the average in passing from groups of younger to groups of older children in the total population of the Minnesota School for Feeble-Minded. But I wrote at the time that this ratio could remain entirely constant only as long as the mental development of normal children progressed at a uniform constant rate. If this normal rate decreased with increasing age, then this ratio must decrease with subnormals.

World War Made Public Test Conscious

In 1913 Yerkes produced his Point Scale, in which the test items were allotted different credits, totaling 100 points for the whole scale.[3] The new scale, although consisting almost entirely of the old Binet-Simon tests, was restandardized, establishing age norms in terms of points on the new scale. Our interest lies in his "Intelligence Index." This was the quotient obtained by dividing the total number of points earned on the scale by the number of points that the average child for the age in question earned, that is, by dividing the points earned by the age norm.

We may pass over the controversy that followed regarding the relative merits of the I. Q. and the Intelligence Index, and other matters. Yerkes' "points" were not acceptable as units, and therefore could not be added or divided to get comparable scores at different levels. The fault of the Intelligence Index was thus of the same nature as that of the I. Q., and the index could not serve as a correct measure of intelligence. If these points had been true units, Yerkes' Point Scale would have gone far towards solving the problem.

Then came the World War, and army mental testing. The magnitude of the task precluded much individual examination, and thus group tests came into being. Since the work concerned only adults these group tests could not be cast into the form of an age scale. There could be no age norms, hence no mental ages or I. Q.'s. The classification of intelligence grades was in terms of a letter scale. This was derived from the familiar "normal distribution curve." Such a scale claims equal steps in successive grades of intelligence, hence true units of measurement. Here, then, was a second rival for the I. Q., not new at all in conception, but resulting after the World War in a most vigorous drive for its adoption in place of the I. Q. as a measure of intelligence. It has not yet seen much adoption, but it is still being advocated.

The psychologic work in the army had important and far-reaching results, both good and bad. Its absurd finding that about a third of the army recruits were apparently feeble-minded all but killed the faint faith the public had in mental tests. That has done much to retard progress. On the other hand, it resulted in a deluge of new test scales, which, we may say, were also both good and bad. But it made the public test conscious and gave psychology its opportunity. The decade following the World War converted what was little more than an experiment with mental testing into a profession that turns out not less than a million I. Q.'s a year in this country alone.

We note that practically all these new test scales score in terms of mental age and I. Q. There are three main reasons for this. One is that mental age is in itself a useful measure, in that it shows what the subject can do at the time. The second is that both mental age and I. Q. are more easily understood by the layman than are probable errors, sigma scores and other derivatives of the normal distribution curve. The third is the difficulty, already mentioned, of standardizing tests for this latter method.

Question of Constancy Much Discussed

As I. Q.'s accumulated, attention turned more upon the adequacy of this measure of intelligence. There is extensive literature on the question of the constancy of the I. Q. Much of it contains little more than a report of correlations between first and second examinations, and, finding these "high," concludes that the I. Q. remains constant or nearly so. This method is entirely inadequate for solving the problem. It confuses reliability of the I. Q. with constancy, and in addition assumes that a correlation that might indicate high reli-

ability must also mean constancy over a period of years. The question of constancy is one of general tendency to continue to change in the same direction, not one of variability, back and forth. A summary of the literature might well read as follows:

1. From a logical standpoint, the I. Q. must remain constant on the whole.
2. Obvious logical deductions show that the I. Q. cannot remain constant.
3. Reexaminations show that the I. Q. does remain constant.
4. Reexaminations show that the I. Q. does not remain constant.

What Reexaminations Showed

If scientific questions could be decided by majority votes, the third conclusion would win by a good margin. My own findings verify the second and fourth conclusions. In 1912 I began a program of reexaminations every two years of all children in the Minnesota School for Feeble-Minded, which was continued for ten years. The results gave an average yearly decrease in I. Q. of about two points, more for cases with initial I. Q.'s around .80, and increasingly less for those of lower initial I. Q.'s. I explained this as due to the nature of the normal mental growth curve, being not a straight line, but representing a decreasing rate of growth with increasing age, and that for this same reason initial I. Q.'s above 1.00 would increase with age. These results have been verified by the following authorities: (1) Meta Anderson, reexamining subnormal children in the special classes in Newark, N. J.;[4] (2) Baldwin and Stecker, reexamining bright children over a period of five years, their results showing an increase in I. Q. of about three points a year;[5] (3) Heinis, who shows deductively that the details of all my results must follow from the nature of the normal mental growth curve. He produces the formula for this growth curve, and proposes a new measure of intelligence, which he shows gives a constant figure for my data, in which the I. Q. steadily decreases;[6] (4) Riley, who found that the Heinis method predicted the mental age for a second examination much more closely than did the I. Q.;[7] (5) Hilden, who used the reexamination data accumulated in my department during the second ten-year period, ending 1931.[8]

Since I have elsewhere[9] recommended Heinis' method as better than the I. Q. more may be said about it. The comparison of the Heinis constant with the I. Q. as found in my data is given in the accompanying table. The data are taken from Heinis' table, adding figures for the ages of seven and eight.

The Heinis constant presupposes his normal mental growth curve. To compute it the mental age is first transmuted into mental growth units. This is then divided by the total growth units that correspond to the age of the child in question. For example, at the age of six the growth curve is 254. At ten it is 333. A ten year old child with a mental age of six would have a Heinis constant of .76. In passing, it may be noted that the plan is quite the same at that of Yerkes. But Heinis' growth units have a better claim to be called units than did Yerkes' points. The Heinis mental growth units are in reality nothing more than weighted scores, as are Yerkes' points, but these weightings are so determined that the quotient from dividing weighted score earned by the weighted score that is normal for the age in question will remain constant for all children, above and below average alike. This seems to be true at least for the ages of seven to fifteen, and for the Binet tests used. It is possible, of course, that outside these ages the Heinis growth curve will need corrections, as well as adjustments for any particular scale of tests used. Since, however, the whole curve is derived

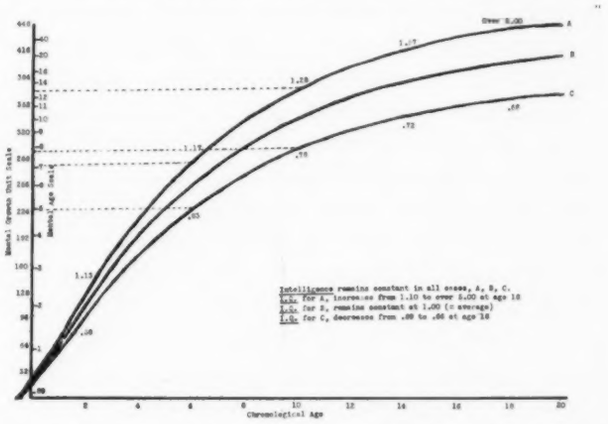


Fig. 1 shows why I. Q.'s above or below 1.00 cannot remain constant.

from a single formula there is some evidence for its accuracy outside these ages.

The Heinis growth curve may be used to show graphically why I. Q.'s above or below 1.00 cannot remain constant.

In this graph (Fig. 1) the figures on the left constitute the mental growth unit scale. On this is projected the mental age scale as shown, according to Heinis. The middle curve, B, is the normal, or average, mental growth curve. The lower curve, C, is the growth curve for a subnormal, with a Heinis constant of .89. That is, the height of this curve is .89 of the height of curve B at every age, which means a rate of development whose relation to the normal rate remains constant. The upper curve, A, is the growth curve of a bright child, with a Heinis constant of 1.10. The I. Q.'s for these two cases, the subnormal and the

bright, are shown with the curves at the ages of 2, 6, 10, 14 and 18. It is seen that the I. Q. for the subnormal decreases from .89 at birth to .66 at the age of eighteen. The I. Q. for the bright child increases from 1.10 at birth to over 5.00 at the age of eighteen. The dotted lines projecting the growth levels at the ages six and ten on to the mental age scale on the left show why the I. Q.'s must change.

Most Criticism Is Directed at Mental Tests

In the actual examination of cases we do not find the extremely high I. Q.'s here suggested. But this is because our mental test scales do not have age norms above eighteen years, and therefore cannot register the extremely high mental ages required. This consideration in itself reveals the absurdity of both mental ages and I. Q.'s for these highest mental levels. Any mental growth curve that gradually approaches the horizontal must necessarily produce them. Their face values are all out of proportion to their true values shown by the height of the growth curve at these points. The height of the mental growth curve of the brightest adult probably does not exceed 125 per cent of the height of the growth curve of the average adult.

We have so far followed the assumption that intelligence itself of any given individual remains constant throughout life. We have discussed the constancy of the measures of such an intelligence. But this assumption cannot be passed by without a challenge. This question complicates the search for a true measure of intelligence. We do not yet know just how much truth, if any, there is in Stern's supposition that the mental development of subnormals ceases earlier than that of the average and therefore presumably slows up more before the final cessation, nor do we know how much of the opposite tendency may be true of the bright. Independent of grade of intelligence at any particular time during the period of development, the old question of influence of environment and other factors on mental development has been brought to the fore again, this time with mental test results to assist in the argument.

We may close one part of this question by citing a few concrete cases. They will show that it is possible for the rate of mental development, relative to the normal rate, to change; that it does change in some cases. Fig. 2 shows I. Q. changes that do not permit any other interpretation, because of the magnitude and consistency of the changes.

I have so far discussed the I. Q. only as a measure of intelligence, assuming that the raw scores on mental tests furnish an adequate basis for such a measure. Most of the criticism, however, seemingly directed against the I. Q. is criticism of the mental tests, and would apply equally well or poorly to any other measure of intelligence based on the same test scores. Most of the criticism in the article by S. A. Courtis, "What Does the I. Q. Really Measure?" which appeared in the January issue of The NATION'S SCHOOLS, seems to be of this character. With the general public the distinction is undoubtedly not of prime importance. Outside the small circle of technicians the I. Q. and mental test will stand or fall together. Let us consider some of these criticisms.

We are told by some that intelligence cannot be measured because it is too intangible, cannot be defined or is too complicated. My answer is that mental test results are of proved value in directing the affairs of everyday life, and that the theories one may have about what intelligence is, or whether it can be measured are relatively of minor importance. The confused thinking of these critics is shown further in their continued practice of making distinctions between children and adults on the basis of differences in intelligence.

Courtis believes that the future or final development of a child cannot be predicted from an I. Q. He notes that in order to determine a growth curve we must know: "(1) the maximum toward which growth progresses; (2) the initial development from which it starts; (3) the rate at which it proceeds." I should say that if we have the third factor we can predict what the development will be at any future age before development stops. We would fail on the prediction of the final development only insofar as we do not know when it stops. It is granted that from an academic standpoint this raises difficult questions. For we must know not only when development stops for the average child, but also what the stopping point is for children with rates of development below and above the average rate. To argue about these questions, however, is to lose sight of the fact that for all present practical application of test results the assumption that development stops near the age of sixteen for all children has been sufficiently accurate.

Mental Tests Give Best Practical Results

If we grant the third factor, the second (initial development) is not required for prediction. But the second factor is required before we can really know the third. Dividing mental age six by chronological age six to get a rate of development assumes that the two sixes are made up of comparable units. This they would not be unless development were zero at birth. But, again, arguing about the amount of mental development at birth, is, from the practical standpoint of using test results, little more than academic quibble.

But Courtis believes also that the rate of development is so changeable that prediction is impossible. He says: "They (I. Q.'s and D. R.'s) are not fixed absolutes, but vary as conditions vary."

I have tried to show that the I. Q. does and must have a general tendency to change when below or above 1.00, when the rate of development in relation to the normal rate does remain constant. But when this general tendency is allowed for, the possibility of prediction is not thereby affected. I have also noted that there may be some change in rate of development for both the bright and the dull, as suggested by Stern for the very low grade. But since this change, if any exists, is so small that we have not yet been able to determine its existence common sense should lead us to conclude that it is not of great practical importance in the use of test results. I have further cited some cases in which the rate of development obviously changed greatly. But their frequency in our data was of the order of about one in a thousand. Wherever extended reexamination programs have been carried out with the Binet type of scale the results show the same thing. Courtis takes the exception for the rule. The important question is not whether we can predict, but with what frequency we can predict accurately enough for practical purposes. For this purpose mental tests certainly serve better than anything else we have.

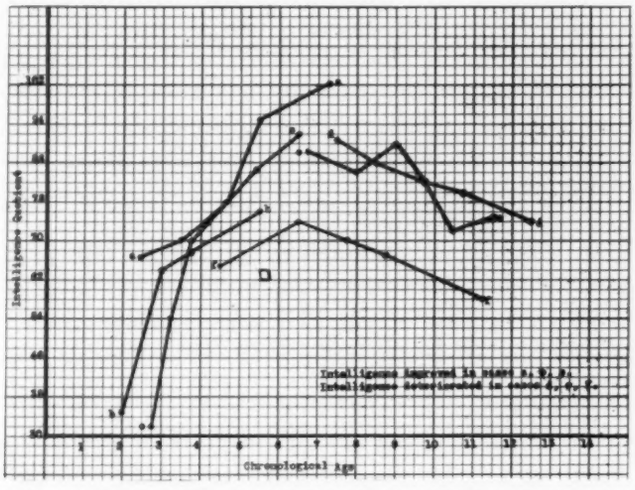


Fig. 2. This shows that it is possible for the rate of mental development, relative to the normal rate, to change.

Perhaps the most frequent complaint is that the I. Q. does not agree with present achievement, or does not predict future achievement, with the implication that it must do this in order to be of value. Repeated explanation of this disagreement seems to be of no avail. Before we had mental tests psychologists and laymen alike knew that intelligence is only one factor that determines achievement. Since the advent of mental tests, psychologists have frequently pointed out that too close an agreement between mental test scores and school achievement is evidence of lack of validity of the tests. Mental tests measure capacity for achievement, not whether the child can or will make full use of that capacity in learning. This makes it possible for the school to attempt to help each child to live up to his full capacity in achievement, as well as to eliminate attempts to make him do things for which he has not the capacity. This should be much more valuable information than the knowledge merely as to what the child's achievement will be when the school makes no attempt to find and remove influences that prevent him from doing his best. The object of the mental test is to discover each child's capacity for achievement (intelligence) be it low or high. This should lead to the discovery of those children whose achievement is below their capacity. The next step should be to find and remove the factors that prevent the child from living up to his capacity. It seems that the critics who want mental tests to predict better than they do, do not wish to concern themselves with the corrective step. Of course, in that case the usefulness of the mental test becomes much more limited. The mental test is prognostic for those who live up to their capacity, diagnostic for those who do not, and it finds both. Let us consider the four combinations of intelligence and achievement at any given age.

Intelligence	*Achievement*
Low	High
Low	Low
High	High
High	Low

It should be clear that finding any or all of the last three combinations in any degree of frequency does not reflect any discredit on the tests. Only the first combination would do so. Courtis presents no evidence that the first occurs unduly often.

All Children Are Able to Learn

Another complaint is that the use of mental tests has led to deterministic doctrines in education which are regarded as untenable or undesirable. This is another way of saying that educators have accepted mental test results as a means of predicting achievement. I have noted that they will predict only for those who live up to their capacity. For them only are mental tests entirely deterministic. One might note that this involves much less determinism than does the old and still common practice of treating all children as alike and capable of the same achievement, no more no less. This gives the bright child no chance, and holds out false hopes for the dull one. It is one hundred per cent determinism. The mental test result leads first to the adjustment of training to the present

ability of the child to take it. Second, it takes into account also expectations in the future. What other procedure would the opposition suggest? In a large measure present training depends on future expectation. One cannot adjust training to a future he does not predict or at least tentatively assume. Planning for the future means prediction, and that is determinism.

What Courtis has in mind, however, is the tendency for many educators to conclude that nothing can be done for children with a low I. Q. Possibly some who do not attempt to do anything have other reasons. Be that as it may, Courtis concludes the same for a certain class. "Such children (those with 'deficiencies in mental structure') do not learn at all." Presumably this might refer to very low grade of intelligence, but this is not apparent. Possibly he means only that they do not learn at all anything of what the public schools ordinarily teach, but this also is not indicated. Certainly, the remark is not based on observation. Ever since the historic attempt of Itard a century ago to teach an idiot, we have known that there is no class of children who do not learn at all. None remains at the birth level. Were Courtis' view accepted it would put a stop to the increasing success institutions for mental defectives have had in teaching their lowest grade children many useful things. It would result for these children in just that "inferiority complex with respect to its (educational profession) ability to help children who have low I. Q.'s" of which Courtis complains.

Plenty of Reasons for Opposing Views

After this, one is surprised to read a little later in Courtis' article that "If a child can learn at all, he can learn to average achievement if training is continued long enough." If one recalls the experience of the public schools with the mentally subnormal, and all the institutions for mental defectives have learned in trying to teach them, this strikes one as a rather remarkable statement. If accepted it would return educators to the hope of several generations ago of bringing the subnormal up to normal grade in school, and it would return state institutions for mental defectives to the attempt of almost a hundred years ago to restore all inmates to society after training to normal efficiency. Idiots and imbeciles can and do learn. Must we conclude, therefore, with Courtis that they could master high school algebra if taught long enough? That the mentally defective can be brought up to the achievement of the average by special and prolonged training has ever been the false hopes of their parents, and of those catering to their parents' wishes. It is still the chief obstacle in the way of their getting a training that is suited to their needs and capacities. The latter might help these children to find a place in the world where they could spend their lives in relative contentment, and usefulness to themselves and society. Pursuit of this vicious educational doctrine to which Courtis subscribes has so far kept most of them from finding it.

The object of this paper is the same as that given by Courtis for his, namely, "To the end that administrators and teachers who use the I. Q. may do so more understandingly and more effectively than before." Those who are thoroughly familiar with mental test literature know that there are plenty of reasons for opposing views regarding the meaning and value of mental tests and the I. Q. Courtis is not alone in the destructive attitude he takes against mental tests. One may find evidence on both sides of many questions if he selects or fails to analyze all the facts and circumstances.

Many Groups Are to Blame

For this many groups are to blame. First, the psychologists for producing an array of group mental tests, some of which are poorly planned or standardized; for recommending them for use over a range of age levels that they cannot cover adequately; for giving inadequate or misleading evidence of reliability, usually correlation coefficients; for requiring too little special training and necessary qualifications from the examiner, and for claiming too much for the results to be obtained with group tests. Second, the publisher, who urges the authors to do so, if they need urging. Third, the educators for undertaking a job for which they are not wholly prepared, namely, selecting the best tests for each purpose, giving them in the proper manner, analyzing and evaluating results by taking all facts and circumstances into account. Fourth, the public for insisting on such rigid, though false, economies as to force educators to use group test examinations where individual examinations alone could be adequate, and as to exclude the employment of competent psychologists.

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A Successful Visual Teaching Program —How It Operates

Growth along mental, physical and social lines has occurred among pupils in the primary grades of the Lebanon schools as a result of the visual health program used there

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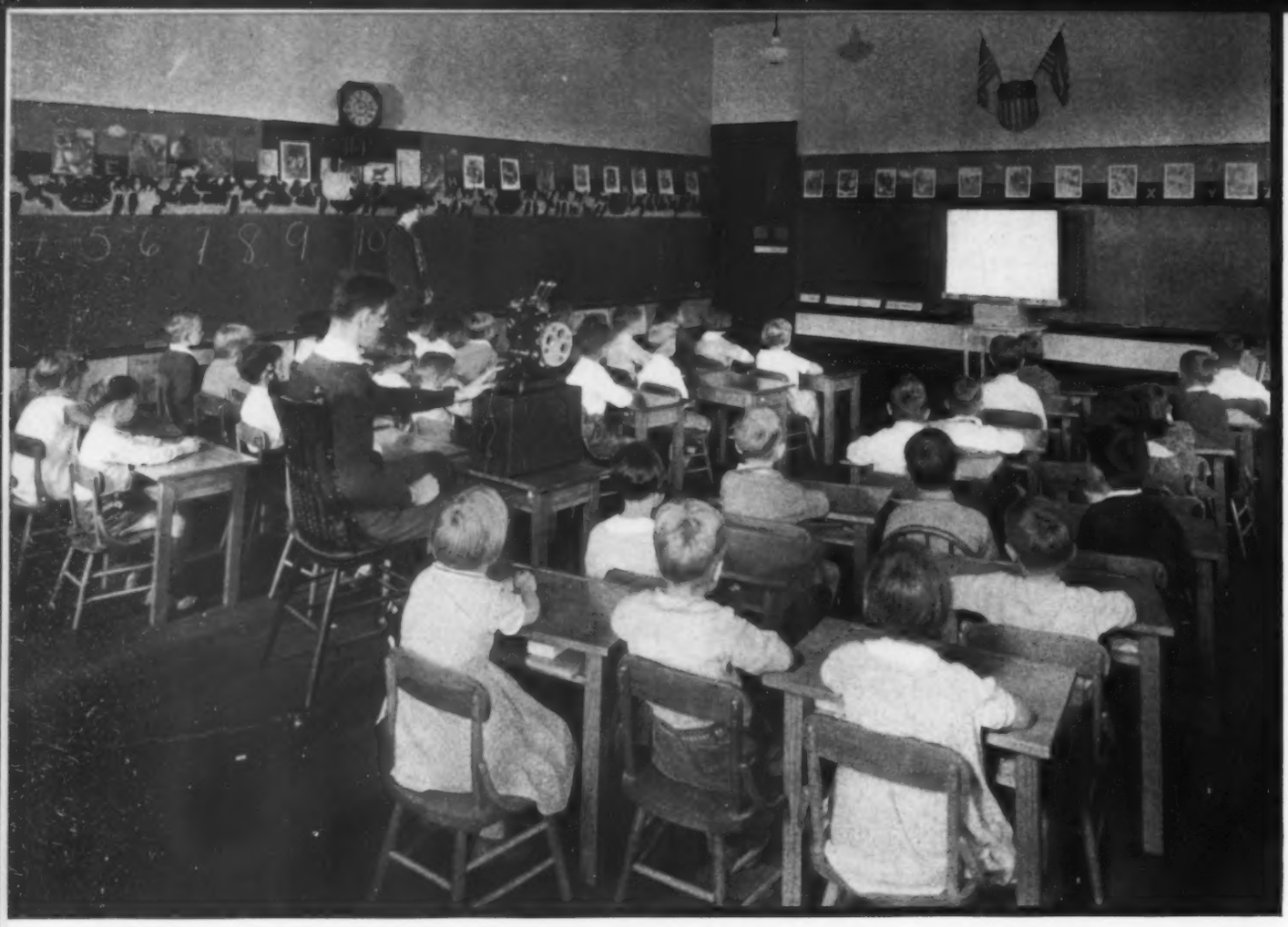
A VISUAL health program was inaugurated recently in the primary grades of the Lebanon, Pa., public schools for the purposes of vitalizing the lessons on healthful living and providing additional opportunities for teachers to incorporate in learning activities the study of health.

The program provides for the showing of health films, visits to farms, bakeries, fruit stores and a modern dairy.

During the first semester a motion picture film entitled "Milk" was shown to the second grade pupils, and another motion picture, "Bread and Cereals," was shown to the third grade pupils. These films are especially designed for the girls and boys of these grades, inasmuch as they are

The health program does not end with the school journey. After returning to their classrooms the children construct miniature farms, dairies and stores, make creamery products and relate their adventures.



There is no questioning the interest of these first grade pupils in the "milk film" that is being shown them in preparation for a visit to a modern dairy. The pictures are shown in the regular classroom.

adapted to the children's particular interests, experiences and understanding. The story characters are boys and girls, and pets and persons who are a part of normal child life. The action of the stories is sufficiently slow and uninvolved to make it possible for the children to get a full understanding, while the captions contain words that already are a part of the children's reading vocabulary.

The Preliminary Preparations

A definite schedule is made for each semester, a copy of which is given each teacher. By referring to the "milk" program schedule, shown in the accompanying table, the teacher can ascertain, for example, the date she will receive the teacher's film guide (M-G), the date the film will be shown to her pupils (M-F-G), and the date her children are to visit the modern dairy.

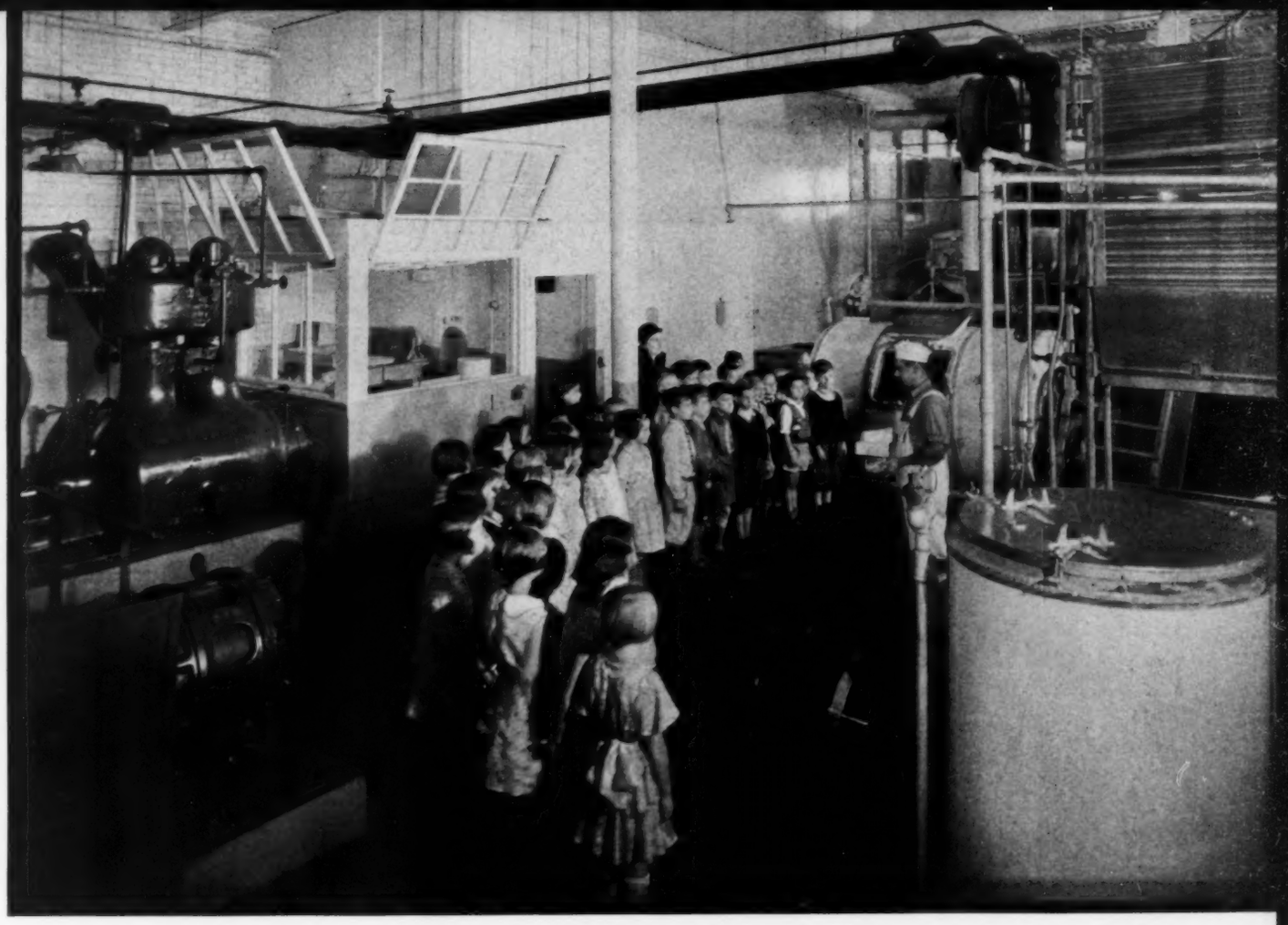
The table shows that on February 15 the teacher of the Henry Houck first grade received the milk film guide, that on February 22 the film was shown to the pupils of that grade and that on March 1 the pupils visited the dairy.

The teacher's guide which is received prior to the film gives the teacher helpful suggestions for planning the two-week program and also assists her in preparing the pupils for the work. All such material is merely suggestive. At no time is a teacher dictated to as to how she is to correlate

MILK FILM SCHEDULE (Grade 1)

	H. H. 1	*Linc. 1A*	*Linc. 1B*	*L. M. 1A*	*L. M. 1B*	*Fair. 1A*	*Fair. 1B*	*Wash. 1A*
Feb. 15	M-G	.....	.....	.....	.....	.....	.....	.....
Feb. 22	M-F-G	M-G	.....	.....	.....	.....	.....	.....
March 1	Dairy	M-F-G	M-G	.....	.....	.....	.....	.....
March 7	Dairy	M-F-G	M-G	.....	.....	.....	.....	.....
March 14	.....	Dairy	M-F-G	M-G	.....	.....	.....	.....
March 21	.....	.....	Dairy	M-F-G	M-G	.....	.....	.....
March 28	.....	.....	.....	Dairy	M-F-G	M-G	.....	.....
April 4	.....	.....	.....	.....	Dairy	M-F-G	M-G	.....
April 11	.....	.....	.....	.....	.....	Dairy	M-F-G	.....

The Hershey Dairy expects your grade at 10 a.m. on the day scheduled.
M—Milk film G—Guide F—Film (shown each Tuesday afternoon)



An "instructor" provided by this dairy plant is telling the story of butter to a group of interested third grade pupils in Lebanon, Pa. The children will describe their experiences upon returning to their classroom.

the material, nor is any definite method or procedure demanded. Each teacher's initiative is challenged to carry on the most interesting and efficient learning activities.

The teacher having prepared the way, the film is shown in the classroom at the scheduled time. A portable projector and a portable screen make it possible to bring the film to the children in their own school situations. A postgraduate pupil of the high school operates the machine. A member of the teaching staff who is thoroughly familiar with the picture and the interests of the children helps bring the story more forcibly to the attention of the children during the first showing. The picture is always repeated a second time, at which showing no comment is made by the teaching staff.

A few days after the film is shown, the children are taken on school journeys to places that will contribute still further to their knowledge and understanding of the health activity. Thus, during the year, those children whose learning activities are centered about "bread and cereals" visit farms, dairies and flour mills. Those children interested in "fruits and vegetables" are taken to farms, fruit stores and markets, and where "milk" is the central theme, the pupils visit farms and modern dairies.

To make certain that these journeys will be profitable to the children, great care is taken in the selection of the places to be visited. Teachers first visit the places themselves in order to become acquainted with the things that will be seen so that they can prepare the children and call their attention in advance to the things which they might look for. No place is visited unless permission has been granted by the proprietor and the necessary arrangements made. The things of interest are pointed out and explained to the children by either the teacher or a representative of the management.

The health program does not end with the school journey. Back in the various classrooms it challenges a wealth of lifelike activities. The children retell their experiences and this is made a part of their reading instruction through experience charts, reading booklets, dramatizations, stories and seatwork. The children meet new words that have to be learned, and letter forms and word combinations that require handwriting practice and instruction. They construct miniature farms, dairies and stores. They make cheese and butter in the classroom which they share with their playmates in other grades. They plant cereals in window boxes and watch them grow. They retell their stories in pictures, they paint at easels, they write stories, poems and riddles and they sing songs. In

addition the children make toys, posters, drawings and designs of various kinds. In other words, all the so-called subjects and learning exercises become a part of the health activity unit.

At the completion of the first year of the activity the visual health program reached a climax with a playlet, "The Garden of Health," which was written especially for the children and presented by the physical education department of the high school. The plot of the playlet was simple but effective. It was the story of a child who became ill from eating the wrong foods. During her delirium the little girl was visited by the Good Health Fairy and taken by her to the Garden of Health. This garden included a man sized bottle of milk, carrot, head of lettuce, apple and orange. As the Good Health Fairy touched each one of these in turn, out of them sprang girls and boys who could do all sorts of tumbling, jumping and athletic feats—the result, of course, of the healthful foods they had eaten.

Results Highly Satisfactory

The value of a visual health program, however, can only be determined in terms of the growth—mentally, physically and socially—that it has brought about in the children. We seem to have produced this type of growth by our method of approach to a greater degree than most formal methods would have done. In the first place, there is evidence that the children know more about milk, bread, cereals, fruits and vegetables than ever before; they appreciate the uses and values of these items to a greater degree, and they have carried back to their homes the lessons they have learned. It is surprising with what seriousness and pride the children tell their teachers and their playmates of the healthful foods they "had for dinner." But, what is of more concern to us, such declarations give real evidence that the children actually are "making the knowledge a part of themselves."

In some cases the teaching has had the psychological effect of making these foods, once disliked by a few children, now actually relished and desired by them. The school journeys were especially helpful during the first year in enlarging the experiences of all the children, and in enriching their speaking and reading vocabularies.

And if such subtle outcomes as attitudes, interest and appreciation can be evaluated by the children's reactions to the whole activity, and toward the concluding playlet—then indeed, we are not assuming too much in our conclusion.

Such a program cannot accomplish everything in one year. It is the kind of teaching that must go on as long as there are growing girls and boys.

Should Pupils Be Made to Sit Up Straight?

Conclusions reached through observation and reflection do not support the conventional views on pupil posture, according to George F. Miller, United States Bureau of Indian Affairs. He says in part:

"In spite of faithful attempts of conscientious teachers the ideal posture fails miserably in practice. In every classroom where pupils are brought to a beautifully uniform and straight position by the word, 'Position,' they all relapse into natural attitudes again a few minutes after the work of the day has begun. Except for occasional short periods when the teacher says, 'Position,' diversity takes the place of uniformity for the rest of the day.

"There is an endless variety of ways in which individuals sit at their desks; and they shift every few minutes from one position to another.

"Evidently a law of nature conflicts with the rule of the school. Nature says variety, the school says uniformity. Effective tests of the school standard can readily be made. Compel a child to sit in the one and only correct position continuously all the hours of the school day. The experimenter will need a cruel streak, because he will have to watch the victim closely and exercise authority. At the close of the day or sooner the child will probably be fatigued. A simpler test is for an adult to try the same experiment on himself."

Educational Accounting Technique

"Fitting the School to the Pupil," an application of educational accounting technique as applied to the Chicago public schools during the recent Strayer survey, has just been reprinted in separate form by Teachers College, Columbia University, to make it easily available to workers in the field of child accounting. The authors include Dr. Paul R. Mort, Teachers College, Columbia University, Dr. W. W. Wright, Indiana University, and Dr. W. B. Featherstone, formerly research associate, Teachers College, Columbia University.

A second publication, "Entrance and Promotion Practices in City School Systems," which gives standards and accounting procedure, has also been published by Doctor Mort and Doctor Featherstone. The second publication is in mimeographed form. Both of these booklets offer many interesting and worthwhile suggestions in certain aspects of educational accounting. They should be of real interest to principals and teachers.

Ability Grouping Solves Problem of Individual Differences

The methods of mass production may be effective in industry but in the field of education they lead to unsatisfactory results

By ESTON V. TUBBS, Principal, Brentano School, Chicago

THERE can be no doubt but that the concept that all men are created equal paved the way for universal education in the United States. The acceptance of the doctrine of universal education was the greatest battle ever won by the common people in their long struggle for equality of opportunity and the right to enjoy the better things of life. But after a period of almost a hundred years of free public education, the feeling obtains generally that all is not well with our schools.

In our efforts to teach and train all the children of all the people, we have been forced out of sheer necessity to adopt the methods and procedures of mass production. Such processes may be highly effective in industry, but in the field of education the results leave much to be desired. Our educational procedures have been based upon the hypothesis that all children are equally educable. An educational policy built upon this assumption can never be expected to succeed.

The Siamese Twins of Education

Scientific investigation has established a fact that parents and teachers have long thought to be true, namely, that children differ greatly in ability, capacity and emotional response. We are coming to see as never before that if our schools are successfully to meet the heavy demands that society is making upon them, education, in practice as well as in theory, must be largely an individual matter. It is therefore of the utmost importance that the latent abilities of each child be developed to the fullest possible extent. On the other hand, it should be clearly recognized that training the individual to cooperate with his fellows in promoting the common weal must be regarded as a matter of equal concern. These are the Siamese twins of education. They represent two principles that are to be considered as inseparable. This discussion will deal only with the problem of individual differences and the ways in which it may be met.

There are three crucial reasons why the techniques of school organization and procedures should seek to develop as fully and completely as possible the native endowments of individual pupils. (1) All normal human beings crave the opportunity to live happily and some aspire to live beautifully. (2) The development of individual abilities is essential to constructive leadership in social, political and economic relationships. (3) Progress in all the arts and sciences is definitely conditioned by the education and training of those who are especially gifted in these fields.

Genius Receives Little Encouragement

One of the greatest and most universal tragedies of human existence is the frustration in individuals of a soul-craving desire to do and achieve certain things. This failure in achievement on the part of adults is frequently transmuted into the hope that their own children will succeed where they have known only disappointment. This phase of life has been depicted in masterful fashion by Mrs. Aldrich in her book, "A Lantern in Her Hand." Abbie Deal, the heroine of the story, yearned for the opportunity to develop her innate abilities in art and music. The exigencies of frontier life and the responsibilities of a family completely thwarted her plans. However, through her great sacrifices, she lived to see the day when several of her children achieved unusual success in the fields of art, music and civic leadership. The problem of individual abilities cannot be dismissed by a wave of the hand and the remark that "wherever there is a will there is a way." Common observation offers ample proof of the fact that myriads of people are the victims of circumstances beyond their control.

Charles Darwin states in his autobiography: "During my whole life I have been singularly incapable of mastering any language. . . . When I left school I was for my age neither high nor low,

and I believe I was considered by all my masters and by my father as a very ordinary boy, rather below the common standard in intellect. To my deep mortification, my father said to me, 'You care for nothing but shooting, dogs, and rat catching and you will be a disgrace to yourself and all the family.' " If Charles Darwin had been born an Australian bushwhacker instead of an Englishman, he undoubtedly would have attained to a considerable degree of leadership among those of his kind, but he never could have been the world renowned scientist.

Napoleon Bonaparte was a commonplace student in the military school he attended in Paris. He did show some aptitude in mathematics but he was poor in the languages and in rhetoric. At the time of his graduation he ranked forty-second in his class.

The list of world celebrities who have in their youth given little or no indication of unusual promise could be extended almost indefinitely. It would include such names as Robert Fulton, Alexander von Humboldt, Sir Isaac Newton, Louis Pasteur, Sir Walter Scott, Henry Ward Beecher, James Russell Lowell, William E. Gladstone, David Hume.

Evidence is not wanting that genius receives little encouragement in our present school practice. The progress which the race is to make in the future is entirely dependent upon those individuals who possess unusual gifts and abilities. Attempts are now being made in different parts of the country to reorganize school procedures so that every boy and girl may have ample opportunity for full development. It is in this way that education will make its greatest contribution to human well-being.

Almost without exception, cities in which serious work is being done in the direction of curriculum construction make provision in their courses of study for developing individual abilities. In a general way, the approach is usually made through the following procedures—class discussion, the experimental method, the project method, dramatics, and intraschool activities.

Two Effective Methods

The class discussion method has been emphasized a great deal during recent years. The socialized recitation is primarily of this type. This procedure is effective particularly in the content subjects. The material to be used for this purpose should be organized on the unit basis. The class is usually divided into small groups or committees. The class elects one of its number as general chairman. He appoints subcommittees to prepare material on the subdivisions of the main topic. At an appointed time, the pupils make oral reports before the class of the points they have investigated. Each presentation is followed by criticisms from members of the class and general discussion of the interesting points. All the while the teacher remains in the background making occasional suggestions but leaving the actual direction of the work to the pupils themselves. The general principles underlying the socialized recitation are so well known that detailed discussion is unnecessary.

The experimental method was originally developed by workers in the field of the natural sciences. This procedure teaches the pupil to be governed only by observable facts. It also develops the traits of open-mindedness and sincere curiosity. If properly used, this method should also result in training pupils in the judicial attitude of mind which is greatly needed in every field of human activity and in all social relationships.

Three R's Can't Meet Today's Needs

The project method, based primarily upon the principle of natural interest, is utilized very generally in all progressive schools for developing individual aptitudes. This device may include the activities of an entire group or it may be in the nature of a problem to be worked out independently by the individual pupil. The common group projects usually center around experiences with which children are more or less familiar or activities that appeal to the interests of boys and girls. The resourceful teacher can do a great deal toward the development of individual abilities through the careful organization of the activities relating to the store, the farm, the garden, bookmaking, the school paper, the development of transportation, shipbuilding, and an infinite number of other projects that are rich in educational possibilities and values. Each subject in the curriculum can be made to yield its full quota of problems for investigation either by the class as a whole or by individuals. It is of the utmost importance that boys and girls be taught to think for themselves and to proceed on their own initiative. As a means of motivating school work the project method is very effective.

In this period of economic depression, the schools are being subjected to much searching criticism. A chorus of voices condemns the fads and frills and advocates a return to the three R's. But when particulars are demanded of these objectors they either do not answer or if they do respond they usually make themselves ridiculous in the opinion of all intelligent people. A type of education based on the three R's can no more meet the demands of a highly complex civilization than the stage coach and the pony express can meet present day needs of passenger travel and communication. Many peo-

ple, even including some educators, persist in hugging the delusion that the type of education that obtained when they attended school can be applied to all life situations.

Dr. Charles H. Judd, University of Chicago, has made the sage observation that new subjects and activities introduced into the schools are evidence of the fact that society is attempting to find a way by which it can better solve the increasingly perplexing problems that confront it. Time was when music and art were considered mere fads. They are no longer so regarded by people who have any conception of educational values. Even a superficial analysis of the intracurricular activities of schools will show that these activities provide more fully than do the formal school subjects for the development of the specialized abilities of pupils and at the same time offer unusual opportunities for creative achievement—the very thing society needs most to develop for the sake of its continued existence and future progress. Indeed many school administrators are strongly of the opinion that intracurricular activities contribute far more toward the spiritual and social development of young people than any other type of work done in the schools.

Pupil Activity Develops Individuality

The varied interests of pupils must be recognized and provided for in every intelligent educational program. The junior high schools of Chicago list thirty-two hobby clubs which represent only a partial list of the intracurricular activities of this unit of the school system. The more important of these clubs are—airplane, astronomy, boxing, chemistry, dramatics, illustrators, life career, metal etching, music, new inventions, newspaper, orchestra, radio, study, travel, violin. These clubs cover a wide range of interests characteristic of adolescent youth. There can be no doubt but that such activities go a long way toward solving the problem of individual differences.

The more progressive schools of the United States are placing a great deal of emphasis upon pupil activity. The philosophy underlying pupil activity is that it develops initiative and individuality. One of the most widely known school systems based upon this conception of education is to be found at Winnetka, Ill. Here the procedures are organized according to individual differences among children. Each pupil is permitted to advance as rapidly as his interests and abilities seem to warrant. The Winnetka Plan also lays a good deal of stress on socialized activities and the development of leadership.

The Dalton Laboratory Plan is similar in conception to the Winnetka Plan. The different subjects are organized on the basis of contracts or units of work. No definite time is set for the completion of any unit, this matter being allowed to rest entirely with the pupil. If he sees fit to devote a day or a week to the continuous study of any one subject, he is permitted to follow his own inclination. The teacher, however, checks from time to time on the progress that is being made by the pupil in each subject. If he devotes too much time to any one subject to the neglect of other subjects he is advised to apportion his time to better advantage in order that his program may be well balanced. The pupil is permitted to advance in any subject as rapidly as his ability will permit. The Dalton Plan is meeting with more favorable consideration in Europe than in America.

An Individualized Procedure Plan

More than ten years ago, James E. McDade, now an assistant superintendent but formerly principal of the Wentworth School, Chicago, began to experiment with individualized instruction materials which he and some of his teachers carefully and painstakingly worked out for the upper grades of the elementary school. Here again, the teaching materials are organized into units. Printed directions accompany each unit assignment. This arrangement makes it possible for all the pupils to be doing different things at any given time. Each pupil soon learns the art of careful reading, and how to solve his problems independently. The units are numbered, which enables the pupil to know at all times just where he stands in the matter of ground covered and work to be done. One of the important features of this plan is that the materials are carefully organized and the pupil has a large share doing the work relating to their care and distribution. This individualized procedure lends itself particularly well to the subject of arithmetic. The steps in the drill work in number combinations may be best understood by the following specific enumeration of procedures taken from a teacher's manual prepared by Mr. McDade:

1. Practice: The pupil practices the first work unit using the practice folder designed for this purpose. It is pleasant because he need not puzzle over what he does not know. He simply follows the instructions given.

2. Self-Testing: When he thinks he knows the answers, he tests himself. If the results agree with the printed answers he so reports.

3. The Test: Using the proper test folder, he knows he has mastered the work unit. Another pupil hears the oral test or times the written test.

4. Credit: He receives credit on his work record card for completion of the unit. A pupil can do it with a rubber stamp.

5. Individual Advancement: He goes on to the next unit. No bright pupil has to wait for others and no slow pupil must leave a piece of work until it is done.

6. Review: The recurrence of the combinations with a frequency proportioned to their difficulty makes sure that the child will retain what he has learned.

7. Review Test: When a group of units is completed, a written test is given. This has already been prepared in advance. The teacher need not even handle it. Fast or slow, the pupil knows in what time he must do it.

8. Marking the Test: A pupil lays a key over the test paper and marks it in a few seconds.

9. Outcome of the Test: If the pupil passes, he goes on to the next unit. If he fails in any part, he need do only that part over again. The key automatically points out which work units need more practice. The marker can check on his work record card the units in which he is weak. Again, only a few seconds are needed.

10. Self-Administering: Note that the tiresome and futile drilling of the whole class by the teacher is superseded by self-directed effort by the pupils. Each knows just what he needs to do next and does it. There is no waste effort. The teacher is free to help when she is needed.

11. The Final Test: At the close of the series a comprehensive test, self-administered like the rest, assures the pupil's command of every combination dealt with, or automatically refers him back to units incompletely mastered.

Advantages of Individualized Instruction

There are several strong arguments in favor of the individualization of instruction, but only two will be briefly mentioned here. First, it brings into play the psychologic principle of self-activity. The fact that the job is the pupil's very own motivates the work to a degree that is most unusual. Children are conscious of their progress and growth and there is an appreciable increase in the amount of work that pupils do under conditions that inspire confidence and develop initiative.

Second, individualization of instruction provides for the marked individual differences found among school children. Some studies show that certain pupils can learn in one day what it takes others as long as 211 days to master. Schools that undertake to conduct their educational programs by the group instruction method are dissipating their energies on a task that is futile. The slow pupils are losing in the race because they are victims of a progressive intellectual paralysis due to a constant lack of understanding of what is going on in the class. It is no wonder that they soon become victims of an inferiority complex. At the same time, the superior child is forming habits of dawdling that are demoralizing or he is being forced into a lock step that is equally vicious. The McDade Plan makes it possible for both the slow and the bright pupil to work under conditions that constantly stimulate him to successful achievement. This inspires in the child a confidence that often leads to the development of unsuspected abilities which become valuable assets both to the individual pupil and to society.

An analysis of the courses of study of several representative cities of the United States justifies the conclusion that a serious attempt is being made to meet the challenge of individual differences to be found among school children. If our democratic form of government is to weather the storms that are beating upon it, our school procedures will have to be modified and fashioned so that each individual may grow to full stature in the development of those abilities with which nature has especially endowed him.

Probably never before in the history of the world have there been so many prophets of despair as there are at the present time. George Santayana, formerly professor of philosophy at Harvard University, says, "Civilization is perhaps facing one of those long winters that overtake it from time to time." H. G. Wells states the case somewhat more forcibly when he declares that civilization is a race between education and catastrophe. If society does not become more aggressive in working out a constructive program for developing creative ability wherever it may be found, it is deliberately committing suicide. One thing is certain. Unless heroic steps are taken to provide the type of education that is essential to meet the demands of modern social and economic conditions, we may as well write the epitaph of a people who built a glorious nation but lacked the insight to maintain it. This tremendous responsibility rests largely upon the shoulders of the leaders in American education.

New Elementary School Will Be Built in St. Louis

Contracts totaling $153,742 for the erection of a new elementary school in St. Louis have recently been awarded, according to Charles Banks, superintendent of schools.

The new school will be a two-story structure, consisting of twelve classrooms and a gymnasium-auditorium. It will accommodate approximately 350 pupils. The contract calls for completion of the work by next August.

Some Features of the "New School" —Can They Be Appraised?

The features that are essential in the modern school must be determined and reliable techniques devised for ascertaining the extent to which they are in evidence in the classroom

By W. HARDIN HUGHES, Director of Administrative Investigation and Research, Pasadena City Schools, Pasadena, Calif.

AN IMPORTANT problem confronting administration is that of evaluating the various types of progressive education now being introduced into the schools and of providing the means, encouragement and balance essential to their proper development.

But what is the "new school"? There is no unanimity of opinion as to its distinguishing features. While we talk enthusiastically about child-centered schools characterized by activities, projects, life situations, creative expression and the like, we are conscious of the wide diversity of aims, methods and procedures actually existing in these schools. We may be certain, however, that the vainglorious appellation "progressive" does not in itself ensure progress.

Change and progress are not synonymous. The former may exist without the latter. The direction of changing methods and procedures with respect to legitimate goals is the primary factor determining progress. It follows, therefore, that an institution initiating few changes in method, content and organization may be more progressive than another institution in which the changes introduced are innumerable. We are confronted with the necessity of determining which changes

are progressive and which are really retrogressive in nature.

It may be, after all, that the best type of progressive program is not an entirely new brand but is a synthesized product of many recognizable elements brought together from the best school practices of the past. It may possibly be that some new and invaluable element has entered into the combination in such a way as to give the impression that the whole procedure is new. On the other hand, it is not inconceivable that the new element is the least important of all. It may be found, in fact, that the efficacy of the new type of program, if it is efficacious, is due in large measure to the old elements combined in practice and due scarcely at all to the new element however conspicuous it may be. In fact, if we could analyze the new program into its factors and determine the part that each contributes to desirable outcomes, we might find that the new factor is really a hindrance and not a help.

No definition is better than its interpretation. Any definition is poor when poorly interpreted. Statements concerning the best criteria of education may, in fact, be so interpreted as to apply to the most undesirable practices. Take, for example, the statement that schoolroom activities should provide abundant opportunities for "purposing, planning, executing and evaluating." Now everyone has a purpose in doing almost everything he does, provided he is at all conscious of his behavior. The boy who hates his geometry, one of the most formal of school subjects, purposes to learn his lesson after considering all the unpleasant consequences of refusing to study. He plans to "get by," and he evaluates what he has done in relation to his purposes. He makes evaluations so accurately that he soon learns to adjust his labors in such a way as to avoid unnecessary effort.

Recognition of Ultimate Goals

Or, take as another example the definition of the "life activity curriculum as consisting of a definitely organized selection of activities—and environments conducive to such activities—to which pupils are or readily may become responsive." This is a part of an excellent definition when properly interpreted, but not even the term "life activity" will save it when given a bad interpretation. A training school for thieves could make effective use of the same principles.

If there is any single fact emphasized by the sane leaders of the progressive movement, it is the importance of purposeful activity. Not only should there be immediate purposes in the projects and other activities of the classroom, but these immediate purposes should be definitely in line with the ultimate goals of education. These latter, we insist, cannot be determined by pupil interests. Any hand to mouth method of education, determined primarily by the immediate interests of children, is doomed to failure. The young, immature individual, by reason of his immaturity, cannot possibly adjudge his present interests in the light of their ultimate potentialities. Neither can he, without guidance, engage effectively in those activities that promise future adaptation in a complicated modern society. Fitting the school to the child, as sometimes interpreted, is a pernicious phrase by no means applicable to the best practices of the new school. Fitting the child to the school, on the other hand, is a more appropriate phrase provided, of course, that the school is a well planned miniature society of the best type.

Lifelike Situations

One of the chief criticisms of the traditional school is the charge that its situations and requirements are unlike those of real life. The new school, on the other hand, is equally criticized for having introduced radically different situations which have never been evaluated from the standpoint of lifelikeness.

Just now we hear a great deal about integration. "Experiences must not exist in air-tight compartments." "Everything must be related to everything else." To determine the happy mean between two untenable extremes is a real task. It is probably true that many of the legitimate experiences of life should not be consciously related. The adult who constantly relates all of his experiences to a common core is hopelessly in a rut. The well rounded individual is one who habitually goes out into varied fields of experience, each of which constitutes a more or less air-tight compartment. Furthermore, this is an age of specialization both vocationally and avocationally. While we grant that the early years of childhood are naturally concerned with simple and closely related experiences, for each individual the time gradually approaches when differentiated fields of experience are essential. The psychologic laws of concentration demand this. We are in danger in many quarters of making a hodgepodge of education to the detriment of normal, effective learning. The truly new school while attempting to integrate relevant experiences does not insist upon forced relationships in learning.

If the traditional school was concerned too exclusively with the informational objectives of education, the new school should recognize a greater variety of objectives and especially those

that are expressed in desirable attitudes and interests of pupils. Of course, it will never be possible to set up standards that shall be absolute. The changing conditions of our civilization preclude this. But while this is a changing world, the essence of human experiences is fairly constant. Information acquired may become obsolete, but habits, attitudes and ideals are the essentials of education in any age. The conditions under which these normally develop are similar from

the fear is analyzed it means simply a preference for an immature and undeveloped experience over a ripened and thoughtful one; it erects into a standard something which by nature provides no steady or tested criterion."

We do not wish to give the impression, however, that such misinterpretations of freedom are universal, but during a transition period in education when conscious attempts are being made to get away from too much regulation and control on the

Provision should be made in the new school for the proper balance of undertakings. These California school children appear to be taking a keen interest in their gardening project.

age to age and throughout the world. The new school should take into account both the constants and the variables in human experience. It should not overemphasize the one to the neglect of the other.

In every field of human endeavor there is a tendency for the proponents of a new philosophy to overemphasize some portion of the new. This is as true in the field of education as in any other. In the language of John Dewey, "The fear of adult imposition has become a veritable phobia. When

part of the teacher, it would be surprising to find no schools in which the pendulum had swung too far. It seems difficult in practice to avoid both Scylla and Charybdis.

Continuing the statement of John Dewey, "The teacher, because of greater maturity and wider knowledge, is the natural leader in shared activities, and is naturally accepted as such. The fundamental thing is to find the types of experience that are worth having, not merely for the moment, but because of what they lead to—the questions

they raise, the problems they create, the demands for new information they suggest, the activities they invoke, the larger and expanding fields into which they continuously open." Freedom under guidance is essential.

An essential characteristic of the new school is an increased emphasis on problem solving. Whether the problem situations in which the children find themselves are group or individual, they should be real.

An Opportunity for the Teacher

Real, worth while problems do not ordinarily spring into existence without suggestion, orientation and guidance. Here is excellent opportunity for the teacher to demonstrate her ability. Too much guidance on her part becomes unwelcome, thereby spoiling the problematic nature of the learning situation. Too little guidance, on the other hand, encourages excessive trial and error. If the teacher is equal to the task confronting her, she will guide the activities and thinking of the children in such a way as to secure interested recognition of worth while problems as well as facility and joy in solving them.

While the cooperative solution of common problems is characteristic of the new school, the individual pupil should not be submerged in the group. Liberal opportunity should be provided for both group and individual accomplishment. Too much imposition from whatever source is detrimental. It is none the less detrimental when coming from the pupil group. Furthermore, in the workaday world of adults, we must solve at least a portion of our problems individually. Socialized problem solving is only partially true to life.

Long Span Undertakings

A corollary of purposeful activity and problem solving procedures in the new school is the dominance of long span undertakings. Facts are no longer acquired piecemeal in unrelated bits; they are selected, evaluated and applied to ever expanding problems as successive milestones of accomplishment are reached and passed. This sort of learning ensures the organization and retention of information in its functional setting. The problem becomes the guiding and organizing feature.

There is an unsettled question, however, as to the optimum span of a major undertaking. If the contemplated group activity is too definitely fixed in advance or if it is carried far beyond the interest spans of children, it defeats the essential purposes of the new program. It is difficult, if not impossible, to say in advance with any degree of certainty that an undertaking should extend through an entire year or semester. Group and individual undertakings vary widely as to scope and depth and consequently as to time needed for their completion. In a sense, furthermore, no real problem is ever completely solved. The best that we can hope to do, even in the most intensive type of adult problem solving, is to carry on the process of solution until the law of diminishing returns becomes effective or until other unsolved problems take on relatively greater importance. Provision should be made in the new school for the proper balance of undertakings. This is especially true at the elementary school level before the foundations have been laid for specialization.

CHECK LIST OF SOME DESIRABLE FEATURES OF THE "NEW SCHOOL"

Features	*Little in Evidence*	*About Average*	*Much in Evidence*
Orienting experiences		x	
Capitalization of interests			x
Freedom under guidance		x	
Problem solving procedures			x
Long-span undertakings			x
Creative expression	x		
Integration of learning		x	
Socializing activities			x
Scholastic achievement		x	
Self-evaluated accomplishment			x
Normal physical activity			x
Joyful accomplishment			x

Creative Expression Is Encouraged

An atmosphere conducive to self-expression is characteristic of the new school. Creative originality in its varied forms is consciously encouraged. "Art in the new school is permitted; in the old it was imposed. The new school assumes that every child is endowed with the capacity to express himself, and that the innate capacity is immensely worth cultivating. . . . . Some will create with words; others with light. Some will express themselves through the body in dance; others will model, carve, shape their ideas in plastic materials. Still others will find expression through oral language, and some through an integrated physical, emotional and dramatic gesture. But whatever the route, the medium, the materials—each one has some capacity for expression."[1]

The new emphasis on creative originality, however, is not without its dangers. Like other phases of the new education, originality can be overemphasized. The creative and original cannot take the place of the conventional. Too much originality in spelling or mathematics, for example, is detrimental to effective expression and accurate computation. Pupils should not be encouraged to create techniques of learning that scientific pedagogy has long ago proved ineffective and wasteful. In school

[1]Rugg and Shumaker, The Child-Centered School.

Class plays and dramatizations are among the types of progressive education now being introduced into the schools.

as in life outside of school, we should conform without too much originality to certain well established ways of doing things. In technical matters one person's opinion and practice are not necessarily as good as another's. Technical guidance is an essential feature in the new educational program. Such guidance, however, need not be incompatible with legitimate self-expression.

Pupils Lead a Healthier Life

Another essential feature of the new school is its liberal provision for normal physical activity. The sedentary life of the old school with its accompanying bad air and mental strain is being replaced by an atmosphere of physical freedom in which children enjoy a wide variety of sensory contacts and bodily movement.

In describing the physical effects of the old school in which children were screwed down in straight rows of immovable seats, Dr. H. S. Jennings declared that "Entrance to school stops or slows the growth of the child. . . . Actual counts show a decrease in the number of red corpuscles on which respiration depends. Hence the chemical processes of the body become disarranged; malnutrition with all its attendant evils comes into view. Study shows that all sorts of morbid states increase greatly as the children progress in school; headaches, nosebleed, eye trouble, insomnia and other nervous disorders become commoner; tuberculosis increases. Further, by continued repression of many of the powers, and by forcing activity in powers not yet ready, strain is brought about; spontaneity is done away with; interest in work is destroyed; the instinct of workmanship is rooted out; hate for work is cultivated in place of love for it."

Among the outstanding accomplishments of the new school is the general improvement of the conditions mentioned by Jennings resulting in the physical well-being of children.

The new school, much more than the old, makes positive use of the law of effect. It has long been known by psychologists that activities that are accompanied or followed by a satisfying state of affairs tend to be repeated and to become established in subsequent behavior while activities that are accompanied or followed by an annoying state of affairs tend to drop out of behavior. The old school provided liberally for the negative side of this law; but it associated annoyance with the very activities that it wished to perpetuate, thereby reducing the probability of their voluntary repetition. The positive side of the law, namely, that having to do with the association of joy with educational accomplishment, was sadly neglected. In the new school, on the other hand, the law of effect has been applied in a way to ensure joyful endeavor on the part of children. Happiness and worth while accomplishment are the most certain evidences of self-realization.

Appraisal Is Difficult

How shall we analyze a classroom situation and determine the extent to which it meets the essential requirements of the new school? This is, indeed, a difficult problem. In the old school, with its chief emphasis upon subject mastery, we had devised rather accurate techniques for measuring educational outcomes. By the use of standardized tests we could determine scholastic intelligence and estimate the extent to which this type of intelligence was being effectively used in the classroom. Intelligence quotients, educational quotients, accomplishment ratios—these were the common terms employed in the discussions of educational accomplishment. Statistical formulas were sometimes used in which such factors as these were

employed to measure the efficiency of individual teachers.

But with the advent of the new school, much more than this type of evaluation is required. We must know what are the essential features of the modern school and devise reliable techniques for ascertaining the evidences of these. At present we are not much beyond the rating stage in determining the extent to which the essential features of the newer education are in evidence. We have made only a beginning. The check list of some desirable features, accompanying this article, is a tentative form that has been used locally in an attempt to collect evidences of essential features of the new school. The technique is unreliable unless used over considerable periods of time. It is entirely inadequate for a single observation. A similar technique has been employed in an attempt to appraise the educational outcomes of learning as evidenced by the habits, attitudes and ideals of children in the new school.[1] The final evaluation of any method or content of education must be expressed in these terms.

Pupils With Defective Eyesight Given Special Training

Established to meet the needs of pupils who are seriously handicapped in their school work because of defective vision, the sight conservation class of District 75 public schools, Evanston, Ill., entered on its second year last fall.

The class was organized in September, 1931. At the close of the term there were ten pupils enrolled, seven boys and three girls. Their ages varied from nine to eighteen years and their grading ranged from 2B to 8B, representing seven grades.

The annual school report compiled by Superintendent J. R. Skiles directs attention to three principal reasons for establishing the sight conservation class.

Special attention to sight conservation, the report states, offers educational advantages to children with serious defects in vision. These children are taught to value their sight and to take measures to conserve it. The classes also relieve grade teachers of the necessity of devoting a disproportionate amount of time to the handicapped pupils, and the school system is relieved of those repeaters who failed to make their grades because of defective vision.

The number of children permitted in one of these special classes, the report outlines, should depend on the number of grades represented. When there are not more than three grades represented in one of these classes, sixteen children may be taken care of. An increase in the number of grades requires a corresponding decrease in the number of pupils. In general, children whose vision ranges from 20/200 to 20/70, together with children suffering from progressive eye trouble, are in need of special training.

Special Classroom Is Used

The operation of the sight conservation class for a single year has illustrated graphically the progress of the handicapped pupils under special training. It has also permitted extensive study as to the methods and equipment to be employed. In a class that presents problems because of varying differences in age, grade, intellectual ability and visual ability, customary class methods are not suitable. Even when the children are fully able to meet the intelligence tests suitable to their ages, the handicap imposed by limited sight so impedes the progress of such pupils as to cause them to be a drag on their normal classmates and it also retards their own advancement.

The board of education, realizing the need of special equipment for such a class, placed considerable emphasis on the choice of a well lighted room. Large, properly spaced windows, walls finished in a dull buff and a cream colored ceiling serve to relieve eye strain. Posture desks, movable chairs, tables, large typewriters, a sand table, a large easel, a drum, a piano and large cupboards have also been provided.

Study Coordinated With Regular Grade

To meet the problems of each pupil, individual instruction is given. The pupil is provided with a clear type text and reference books printed on soft toned paper, special pens and pencils and large individual maps. In order to permit them opportunities for self-expression, members of the class are given additional training in all subjects with the normal sighted groups. The work in the classroom is coordinated with that of the regular grade. Work requiring close-up use of the eyes is done in the special class under guidance of the special teacher.

Arithmetic is taught largely by oral drill in figure combinations. Problems are read to the class or written in large type. Since pupils are handicapped in vision, particular training in hearing is stressed. An untiring effort is made to make pupils conscious of the value of protecting their eyes. Proper posture and use of lights and other remedial measures which will serve to relieve eye strain are emphasized.

[1]Hughes, W. Hardin, Refining the Estimates of Personal Qualities, The NATION'S SCHOOLS, Feb., 1931, Coordinating Subject Marks and Achievement Marks, The NATION'S SCHOOLS, Oct., 1932.

Citizens' Conference Submits Policy to Safeguard Education

Meeting in Washington, D. C., adopts series of principles and recommendations for consideration by individual states and communities to protect education from injurious curtailments

By FRANK CODY, Superintendent of Public Schools, Detroit

PRESIDENT Herbert Hoover called a meeting of seventy representatives of organizations including the American Council on Education, the American Farm Bureau Federation, the American Federation of Labor, the National Association of Manufacturers and the National Grange, which met in Washington, D. C., on January 5 and 6 under the title of "The Citizens' Conference on the Crisis in Education." Representatives from certain publications were also present and the U. S. Chamber of Commerce sent an "observer."

The purpose of the meeting was ably expressed by President Hoover in his opening address when he said:

"Our nation faces the acute responsibility of providing a right of way for the American child. In spite of our economic, social and governmental difficulties our future citizens must be built up now. We may delay other problems, but we cannot delay the day to day care and instruction of our children."

No "Pulling of Punches" in Discussions

The general theme of the gathering appeared to be discussion of ways and means for securing essential educational programs in full recognition of current conditions and the ability of the people to pay for their support. Contrary to many misleading press reports, the conference was not hostile to public education. It appeared to me that there was considerable misunderstanding of what the schools are required to do and how they are doing it. During the course of the meeting representatives of the several interest groups were able to sit around the table and exchange their views openly and without "pulling their punches."

It is obvious to any one familiar with our decentralized system of public education that little can be expected from the federal government. The serious problems awaiting solution lie right back in each state and within the communities of each state. The solution is largely in the hands of the profession.

The citizens' conference after serious deliberation and discussion did adopt a series of statements that may be considered by individual states and communities as representing the general attitude of these diverse groups. These include:

1. Educational service should be accorded a high degree of priority in determining the purposes and services which shall be supported by the states during an economic depression.

Must Eliminate Political Influence

2. The major wastes should be eliminated through the elimination of control and interference by politicians, of political appointments and of political corruption.

3. Local governments and local school districts should be reorganized and consolidated.

4. Administrative control of the schools must be centralized in the superintendent.

5. State administrative organization of education must be reorganized through the creation of a nonpolitical and professional agency for the administration of the educational policies of the state.

6. The state must assume the responsibility within its means of assuring adequate public education to all local communities, irrespective of their financial condition.

7. Education is related inseparably to economic conditions and to the future as well as the present social health of the nation. The present status of the nation's finances requires rigid economy in public education. At the same time the education of the present generation of school children, bound up as it is with the proper functioning of our institutions in years to come, must not be sacrificed to temporary economic needs.

8. The teaching load should not be increased

beyond the ability of the individual teacher to offer a reasonable standard of instruction to each pupil.

9. The size of classes in art, music, shop work, home economics and other special subjects should be made as large as that of the average academic class.

10. The amount of time given to the laboratory sciences should be the same as that given to other academic subjects.

11. The amount of credit for all vocational subjects should be equal to the number of teacher hours required, provided that provision be made for a proper amount of extra class work to be done by each pupil.

Opposed to Further Budget Reductions

12. Accrediting agencies should be urged to modify their standards for those schools which can carry a higher pupil-teacher ratio without detriment to the welfare of the children.

13. The requirements of the Federal Board for Vocational Education should be revised.

14. Building construction should be postponed if, when and where practicable.

15. Business departments should be studied and if possible reorganized.

16. Class size should be adjusted.

17. Before teachers' salaries are adjusted, the activities of auxiliary agencies should be curtailed. If readjustment of teachers' salaries is necessary, it should be made in relation to the reduction in the cost of living of the teaching group in any given community.

18. Definite and comparable information on school costs being needed and not now available, the U. S. Office of Education is requested to resume this important and timely study.

19. The records of the U. S. Office of Education show that reductions in school budgets already range from 15 to 100 per cent. Over 4,500 school districts have closed their schools entirely. Nor is this the worst. There is a demand that school budgets be further reduced though they have already been cut to a point where the schools cannot be operated efficiently. We go on record as opposed to this unwise and unsound procedure.

20. The immediate harm to school children arising from insufficient educational supplies, overcrowded classes, poorly prepared teachers, and shortened school terms is obvious. The ultimate evils may not appear for a decade, but it is certain that the nation will pay heavily in the future if our educational machinery is allowed to break down today.[1]

[1]The author was a member of the commission of seventy and also chairman of the Committee on Organization and Operation.

Free Textbooks Cost City Schools $1.58 Per Pupil

Costs of textbooks supplied free to pupils by city schools in the United States average $1.58 per pupil, according to the U. S. Office of Education. The total cost of free textbooks exceeds $4,000,000 annually.

Data have just been compiled from 227 cities within fourteen states and the District of Columbia where it has been the practice to distribute free textbooks to pupils.

The cities range from 10,000 population to over 100,000, and are divided into three groups, the first embracing all cities over 100,000 population, the second those between 30,000 and 100,000 and the third between 10,000 and 30,000. The schools include the elementary, the junior high, and the high school. More than 2,500,000 pupils are enrolled in the schools of the 227 cities.

On the basis of pupil enrollment, the per capita cost of textbooks computed for the three educational levels shows an increase for each population group and in each level of a group. The group of largest cities shows the smallest per capita costs. In the elementary schools for the first group of cities, the textbook cost per pupil is given as $1.17, which is based on an elementary enrollment of 38,861 pupils in the average city group.

Large Enrollments Reduce Costs

In the second population group, the elementary enrollment for the average city is 6,479 pupils, while the per capita cost for the elementary school textbooks for the second group is $1.21. In the third group the elementary enrollment of the average city is 2,732 pupils, and the per capita elementary textbook cost is $1.34.

The larger the enrollment unit, the smaller is the per capita cost for textbooks. A like condition holds true for the junior high school and for the high school, except as between the high school units of the second and third groups where the per capita costs are the same.

The per capita costs for the junior high schools are as follows: For the first group of cities, $1.92, for the second, $2.03, and for the third, $2.06. For high schools, the per capita cost for the first group is $2.63, and $2.87 for both the second and third groups.

A total of 1,732,085 elementary pupils are represented in the 227 cities studied, 356,381 junior high school pupils and 451,634 high school pupils. A total of 2,540,100 pupils are represented in all levels of education of the cities supplying textbooks free.

M. Vincent O'Shea—A Personal Tribute

O'Shea was not only a master teacher, he was a true friend. And he was something more—in the best sense of both terms, he was a fine gentleman

By WILLIAM C. BAGLEY, Teachers College, Columbia University

THE death of Professor O'Shea on January 14, 1932, terminated all too soon a notable and useful career.

For thirty-five years a professor of education in the University of Wisconsin, Professor O'Shea wielded a wide influence, not only as a teacher but as a writer, an editor, a lecturer and a research worker. His contributions to educational progress were substantial and enduring. It is not of these, however, that I shall speak at this time. I wish merely to record my personal indebtedness to him as a teacher and a friend.

It was my good fortune to enter the University of Wisconsin as a graduate student in 1897. Professor O'Shea began his work at Madison at the same time and I was a member of his first class.

O'Shea had justed turned thirty. He had graduated from Cornell University in 1892, taught psychology and education in the state normal school at Mankato, Minn., for three years and in the Teachers College, University of Buffalo, for two years. He had published several articles on education, and one of these, which appeared in the *Atlantic Monthly*, had come to my attention. His appointment to a professorship in the University of Wisconsin was one of my reasons for choosing that institution for graduate study.

Deeply Interested in Child Study

At that time few universities offered courses in education and still fewer had separate departments of education. Teachers College, New York City, was still an independent school concerned chiefly with the preparation of teachers of manual training and the household arts. The chief centers for the study of education were Clark University and the University of Chicago, the summer quarter of which I had attended in 1896. Few graduate students, either at Clark or at Chicago, registered for their major work in education.

At Wisconsin, courses in education had been offered by Prof. J. W. Stearns, department of philosophy, a genial, scholarly man and an excellent teacher. He shared the work in education with Professor O'Shea during the year that I was there, and, I believe, until his retirement several years later.

Professor O'Shea had been strongly influenced by the Clark group and especially by Stanley Hall, whose child study movement was attracting wide interest. At Buffalo he was a colleague of Dr. Frank McMurry, who, with his brother, Charles A. McMurry, and Charles De Garmo, represented the Herbartian school of educational theory.

Favored Group Discussion Method

The classes in education were small. Most of the students were graduates of the state normal schools who came to the university to work for the degree of Ph.B. Professor O'Shea conducted his classes largely by what we call today the group discussion method, and I have never known a teacher who used this procedure more effectively.

In the second semester, O'Shea secured permission from the Madison High School to have some of the students do practice teaching under his direction. I was one—and perhaps the only one—to take advantage of this opportunity. There may have been earlier instances of supervised student teaching in connection with university courses in education, but none has come to my attention, although it is possible that such opportunities were offered at the University of Chicago.

My own teaching culminated in a "critique lesson" which was observed by my fellow students and Professor O'Shea. After the lesson, the students and the professor held a conference, which was somewhat in the nature of a postmortem. It was a trying experience but it was splendid discipline. Candor compels me to add that no more student teaching was permitted in the Madison High School—at least for several years.

My indebtedness to Professor O'Shea is by no means limited to the instruction and training that I received during that year. His counsel and encouragement helped me on innumerable occasions. It was through his interest and influence that I received my first appointment in the field in which my work has since lain. There is no one to whom my professional indebtedness is heavier.

State Standards to Be Met by School Superintendents

This survey of existing laws and regulations for special certificates for school administrators reveals the fact that the requirements for personal qualifications are weak

By CARL S. CHILTON, Harlingen, Tex.

IT IS generally recognized in the United States that the state (or some legal subdivision thereof) has authority to examine the fitness of those who desire to teach and certify regarding their ability.

Certificates to teach were originally intended for those who taught in the lower grades—the elementary school. With the advent of the high school, however, it became desirable to eliminate the general certificate, which was valid in all grades, in favor of special certificates, and the earlier forms issued were high school certificates. With the growth of schools, with the spread of the departmental plan of instruction, with the introduction of new and special subjects and with the increase in the duties and responsibilities of supervisory and administrative positions, the special certificate has taken on many forms.

These special certificates confer special privileges and deny general privileges; they authorize the holder to teach in certain grades, to teach certain subjects or to perform certain special educational duties. In keeping with this trend, there is a distinct movement toward special certificates for school administrators and supervisors.

Three Classifications of Requirements

In order to gather data for this survey, the state departments of education of the forty-eight states were consulted concerning their practices in issuing special administrative certificates. At the present time twenty-three states issue special administrative certificates for school superintendents, and twenty-one of these states require their use. In addition to these twenty-three, nine other states report that there has been agitation for the establishment of such certificates and their use. This information, together with the names of the states, is given in Table I.

In the twenty-three states, a total of forty special administrative certificates for superintendents

TABLE I—STATE PRACTICES IN ISSUING ADMINISTRATIVE CERTIFICATES

State	*Supt. Cert. Issued*	*Supt. Cert. Required*	*Proposal to Establish Adm. Cert.*
Alabama	Yes	Yes	...
Arizona	No	No	No
Arkansas	No	No	No
California	Yes	Yes	...
Colorado	No	No	...
Connecticut	Yes	Yes	...
Delaware	Yes	Yes	...
Florida	No	No	No
Georgia	No	No	No
Idaho	No	No	No
Illinois	Yes	Yes	...
Indiana	Yes	Yes	...
Iowa	No	No	Yes
Kansas*	No	No	Yes
Kentucky	Yes	Yes	...
Louisiana*	No	No	...
Maine	Yes	Yes	...
Maryland	Yes	Yes	...
Massachusetts	Yes	No	...
Michigan*	No	No	No
Minnesota	Yes	Yes	...
Mississippi	No	No	Yes
Missouri	Yes	No	...
Montana	No	No	Yes
Nebraska	No	No	Yes
Nevada	No	No	No
New Hampshire	Yes	Yes	...
New Jersey	Yes	Yes	...
New Mexico	No	No	Yes
New York	Yes	Yes	...
North Carolina	Yes	Yes	...
North Dakota	No	No	No
Ohio	No	No	No
Oklahoma	No	No	No
Oregon	No	No	Yes
Pennsylvania	Yes	Yes	...
Rhode Island	Yes	Yes	...
South Carolina	No	No	No
South Dakota	No	No	Yes
Tennessee**	Yes	Yes	...
Texas*	No	No	No
Utah	Yes	Yes	...
Vermont	Yes	Yes	...
Virginia*	No	No	No
Washington	No	No	Yes
Wisconsin	No	No	No
West Virginia	Yes	...	...
Wyoming	Yes	Yes	...

*These states make special requirements of their superintendents, though they are not embodied in a special certificate.

**The certificate in this state is required of county superintendents, only.

TABLE II—AMOUNT AND KIND OF PROFESSIONAL TRAINING REQUIRED

Number of Certificates	
2	1 year graduate study in administration and supervision
1	1 year graduate study in school administration
1	1 year graduate study in education
1	1 year graduate study, major in education, minor in administration
1	6 semester hours in graduate school administration
1	18 semester hours plus two summers' graduate work in administration and supervision
1	18 semester hours plus one summer's graduate work in administration and supervision
2	21 semester hours including 12 in administration and supervision
1	30 semester hours including 5 in administration and supervision
2	30 term hours including 5 in administration and supervision
1	18 semester hours including specified subjects
1	16 semester hours including specified subjects
1	15 semester hours including specified subjects
2	examination in specified subjects
1	examination in specified subjects and thesis
3	study of specified subjects
2	32 semester hours of professional training
3	18 semester hours of professional training
1	16 semester hours of professional training
2	15 semester hours of professional training
1	41 quarter-hours of professional training
1	400 clock hours of professional training
1	professional course
1	approved course
1	satisfactory evidence
5	no report
40	

are issued. The number issued in each state varies from one to three certificates. An analysis of the standards that the states maintain and require of the applicants for such certificates has been made and it is the purpose of this paper to present these standards. It may be well to explain here that the certificating authority is not the same body in all of these states. In 15 states the certificating authority is the state board; in 4, the legislature; in 2, the state department; in 1, the state superintendent. One state did not report on this point.

The requirements for these certificates may be grouped in three classifications—training, experience, personal qualifications. Training is generally recognized as consisting of both academic and professional study. In the requirement of academic training, we find considerable agreement. Seventy per cent of the twenty-three states require four years or more academic training as a minimum standard. Fifty per cent require more than four years of training for their highest certificate.

The requirements for professional training are much more varied. This may be largely due to the variation in educational training available in the different states, and in the different schools within a state (Table II). A combination of certain items in Table II, without regard to the amount of professional training, gives the following information regarding the kind of professional training specified: for 9 certificates, certain subjects to be studied; for 12, work in administration and supervision; for 14, only professional training; for 5, no professional training. This shows that the kind of professional training required for nine certificates is that certain subjects shall be studied. A list of these subjects reveals that the majority of them refer to school administration and supervision or belong in that department of a school of education. If to these nine we add the twelve certificates for which work in administration and supervision is required, we find that more than half of the certificates require professional training in administration and supervision.

"Successful Experience" Is General Requirement

The amount of professional training required is not specified in all cases, but, when it is stated, it varies from fifteen semester hours as a minimum to one year of graduate work as a maximum. The exact amount of professional training required, is shown in Table III.

A study of Table IV shows that for 95 per cent of the certificates, two or more years' experience is required; for 40 per cent of the certificates, three years' experience is required; for only 27½ per cent is administrative or supervisory experience required, and for 62¼ per cent only teaching experience is required. Two of the twenty-three states require experience within the state. Illinois makes this requirement for only the highest certificate; Wyoming makes the requirement for all certificates of superintendence grade.

TABLE III—AMOUNT OF PROFESSIONAL TRAINING REQUIRED

Number of Certificates	*Semester Hours*
2	32
2	30
1	28*
1	24
1	22**
1	21
1	20
4	18
2	16
3	15

*Actually 41 quarter hours
**Actually 400 clock hours

Many of the certificates make no requirements other than those specified in academic and professional training and experience. When additional requirements are made, they are usually general, that is, they apply to all teachers' certificates. These requirements include such items as minimum age, United States citizenship or residence, medical certificate, good character. Seven states require applicants for a superintendent's certificate to hold or to be able to meet the qualifications for a teacher's certificate. Eight states use as a requirement "proof of fitness," or a similar statement, in order to maintain high standards in personal qualifications. It may be presumed, however, that the requirement of "successful experience" is the general standard for qualifications.

TABLE IV—AMOUNT AND KIND OF EXPERIENCE REQUIRED

Number of Certificates	*Years of Experience*
1	10
1	6, including 3 as administrator or supervisor
1	6, in supervision
3	5
1	5, or 3 as high school principal
1	5, including 3 in administration
1	5, including 2 in administration or supervision
2	5, as principal or supervisor
4*	4
1	4, including 1 as principal or supervisor
13**	3
1	3, including 1 in administration
2	3, in administration
5	2
1	2, in administration or supervision
2	0
40	

*For one certificate Illinois requires two of the four years' experience to be in Illinois.

**Wyoming requires one of the three years' experience to be in Wyoming; also permits eight hours' practice teaching to be offered in lieu of one year's experience.

An evaluation of these standards, as they are stated in the certificate laws and regulations, in comparison with the qualifications necessary for successful educational leadership, reveals the fact that the requirements for personal qualifications are weak. Yet it is known that the lack of suitable personal qualities has undoubtedly been the cause of the failure of many otherwise competent school administrators. This weakness, however, does not condemn the special administrative certificate, for the same weakness exists in the requirements for teachers' certificates, and to abolish them is unthinkable. The requirement of successful experience must act as a bar to those who lack the necessary personal characteristics.[1]

[1]This survey is a portion of an unpublished master's thesis in progress at the University of Texas under the direction of Dean B. F. Pittenger.

A Technique for Allotting State School Funds

Approximately $700,000 a year could be saved on elementary school expenses in California if county superintendents of schools were permitted to consolidate school districts in the interests of sound educational theory and good business management.

This fact is brought out in a report on the problem of equalization of support for education in the state published by the University of California Press. The material was gathered by a graduate student, Ivan R. Waterman.

If such consolidations were carried out on the basis of information gained from questionnaires answered by forty-one out of fifty-six county superintendents who cooperated in the survey, approximately 55 per cent of the one-teacher schools, 47 per cent of the two-teacher schools and 15 per cent of the three-teacher schools would be eliminated.

This consolidation would affect about 25,206 pupils, according to the registration for 1928. These pupils would have to be provided for in larger schools, but the cost of educating them would be decreased from about $2,689,279 to $1,982,199, a saving of more than $700,000, without considering transportation costs.

Equalizing the Burden of Support

The purpose of the study was to develop a technique to be used in California or elsewhere for the apportionment of state school funds so as to equalize the burden of support between counties. As a basis for computation the average cost of education in California according to size of school was determined.

It was found that the average cost for a 1-32 pupil elementary school is $1,612 a year; for a 33-64 pupil school, $3,446 a year; for a 65-98 pupil school, $5,375 per year and for 97-128 pupil schools, $5,950 a year. For larger elementary schools the basic average is $9,340 a year with an additional cost of $2,068 for each thirty-two pupils over 160. High school and junior high school figures run higher per unit of average daily attendance.

On the basis of these figures the cost of an equalized program for the state in 1927-28 would have been $92,575,375, or $12,436,520 less than the amount actually spent. This sum would be so apportioned that each county could raise its share by the same tax rate as the other counties. This would, however, increase considerably the share of school funds paid by the state.

Superintendents Rally for Annual Meeting in Minneapolis

The entire program of the meeting will be based on the convention theme, "New Frontiers for American Life," various phases of which will be discussed by leading authorities

MINNEAPOLIS is prepared to welcome the 1933 convention of the Department of Superintendence of the N. E. A., which will be held in that city, February 26 to March 2.

The theme around which the program has been built is "New Frontiers for American Life." "What more appropriate theme could be chosen at a time when all the world suddenly realizes that it is face to face with new frontiers in its economic, political and social life?" asks Milton C. Potter, president, Department of Superintendence. "New Conditions have brought with them new problems and new demands in all walks of life. Perhaps never in America have we been so conscious, so solicitous or so confident that in our hands and hearts lie the material and spiritual elements from which a newer and better future shall be builded."

Will Review Exhibits Saturday

Speakers at the various sessions will base their addresses on some phase of the theme, and the entire program promises much of practical and inspirational value.

A review of the convention exhibits by the president and other officers of the Department of Superintendence, accompanied by the officers of the Associated Exhibitors, will be held on Saturday, February 25. Vesper services will be held Sunday afternoon, February 26, with President Potter presiding. Lotus D. Coffman, president, University of Minnesota, will address the gathering, and a concert will be rendered by the famous St. Olaf's Choir. This choir under the masterly direction of Dr. F. Melius Christiansen, who organized it some twenty-five years ago, ranks as one of the most perfect ensembles in this country.

The Monday morning session, the theme of which will be "The challenge of the new frontier," will open with an address by Harley D. Lutz, professor of industrial finance, Princeton University, on "The Relation of the Present Economic Crisis to the Future of Democracy." Howard Scott, consultant engineer, directing the Energy Survey of America, and director of technocracy, New York City, will speak on "The Imminence of Social Change, the Impact of Technology on a Price System of Production." "The Implication of the New Social Frontiers" is the title of a talk to be made by Jesse H. Newlon, professor of education, and director of Lincoln School, Teachers College, Columbia University. Glenn Frank, president, University of Wisconsin, will speak on "Education for a Changing World."

William John Cooper, U. S. Commissioner of Education, Washington, D. C.

"An educational philosophy for our advancing frontiers" is the theme of the general A session

Frank N. Freeman, professor of education, University of Chicago.

on Monday afternoon, which will be presided over by Edwin C. Broome, vice president, Department of Superintendence. Among the topics on the program are: "The Need for a Modernized Teaching Philosophy," by F. L. Redefer, executive secretary, Progressive Education Association, Washington, D. C.; "Modern Theories of Education and Practical Considerations," by William C. Bagley, Teachers College, Columbia University; "Our Educational Frontier," by Boyd H. Bode, chairman, department of principles of education, Ohio State University; "Major Issues With Reference to Proposed Reforms," by Frank N. Freeman, professor of education, University of Chicago.

The theme of the general B session on Monday afternoon is: "The training of teachers for the new order." This session will be presided over by Joseph Rosier, president, National Education Association. The program will include: "Redirection of Teacher Education Toward New Frontiers," by H. A. Brown, president, Illinois State Normal School, Normal, Ill., and president, American Association of Teachers Colleges; "Our Public School Crisis and Teacher Training," by Paul Stetson, superintendent of schools, Indianapolis; "Necessary Differences in Teacher Specifications for the Old and New Frontiers," by Fred M. Hunter, chancellor, University of Denver; "How the University School of Education Views the Teacher Problem," by Paul C. Packer, dean, college of education, University of Iowa, and president, National Society of College Teachers of Education.

The theme of the Monday evening program is: "Educational frontiers from an international viewpoint." Harry Charlesworth, general secretary, British Columbia Teachers Association, and vice president, World Federation of Education Associations, Vancouver, B. C., will speak on "Educational Frontiers of the New World." "New Educational Problems of the Antipodes" will be discussed by R. S. Wallace, vice chancellor, Sidney University, Sydney, Australia. David Lawrence, editor, *United States Daily*, Washington, D. C.,

Glenn Frank, president, University of Wisconsin.

will speak on "Representative Governments Face the New Frontier."

The Tuesday morning session will open with a presentation of the Year Book on Educational Leadership, by A. J. Stoddard, superintendent of schools, Providence, R. I., and chairman of the 1933 Year Book Commission. Herbert S. Weet, superintendent of schools, Rochester, N. Y., will give an appraisal of the Year Book, and William John Cooper, U. S. Commissioner of Education, Washington, D. C., will speak on professional leadership in education. President Potter will preside.

The Tuesday afternoon session will be devoted to discussion group meetings. The presiding offi-

cers include the following school superintendents: S. O. Hartwell, St. Paul, Minn.; Charles Meek, Toledo, Ohio; Edward D. Roberts, Cincinnati; John A. Sexson, Pasadena, Calif.; Thomas W. Gosling, Akron, Ohio; David E. Weglein, Baltimore; E. E. Oberholtzer, Houston, Tex., and William L. Mercer, Olmstead County, Minnesota.

Superintendents Will Lead Discussions

The theme of the Tuesday evening program is: "The administration of education on the new frontiers." George D. Strayer, professor of educational administration, Teachers College, Columbia University, will speak on "Educational Economies and Frontier Needs," while "Capitalizing the Frontier Crises" is the subject of an address to be given by Edward C. Elliott, president, Purdue University.

A joint meeting with the American Educational Research Association will be held Wednesday morning, the theme of which will be: "The improvement of instructional materials for the new frontier." President Potter and William S. Gray, professor of education, University of Chicago, will preside. The following topics will be discussed: "The Scientific Development and Evaluation of Textbook Materials," by B. R. Buckingham, Harvard University; "Current Issues Relating to the Curriculum and Instructional Materials," by A. L. Threlkeld, superintendent of schools, Denver; "Freedom From Red Tape and Statistics—A Frontier Blessing," by Ernest C. Hartwell, superintendent of schools, Buffalo, N. Y.; "The Scientific Development and Evaluation of the Curriculum," by Charles H. Judd, dean, school of education, University of Chicago.

Dr. Charles Mayo, Rochester, Minn.

Discussion group meetings will feature the Wednesday afternoon session. The following school superintendents will preside: Willard E. Givens, Oakland, Calif.; George Melcher, Kansas City, Mo.; Charles B. Glenn, Birmingham, Ala.; Frank A. Jensen, Rockford, Ill.; John H. Logan, Newark, N. J.; Edwin C. Broome, Philadelphia; J. Cayce Morrison, assistant commissioner of elementary education, state education department, Albany, N. Y.; Stephan F. Bayne, district superintendent of schools, New York City, and Albert S. Cook, state superintendent of schools for Maryland, Baltimore.

On Wednesday evening there will be college dinners and a concert by the Minneapolis Symphony Orchestra. Florence Hale, vice president, National Education Association, will preside.

Will Speak on Extension Education

"New educational frontiers beyond the common schools" is the theme for the Thursday morning session. "Secondary Area" is the title of a talk to be made by Thomas H. Briggs, professor of education, Teachers College, Columbia University. George Carrothers, inspector of high schools, University of Michigan, will speak on "Beyond Secondary Education, What?" "University Area" is the title of an address to be made by Robert M. Hutchins, president, University of Chicago.

The theme of the Thursday afternoon session is: "The new frontiers of extension education." The following addresses will be made: "Dangers in the New Leisure Area," by Dorothy Enderis, director, extension department, Milwaukee public schools; "Interprofessional Frontiers," by Dr. Charles Mayo, Rochester, Minn.; "New Problems in Adult Education," by Ray Fife, state supervisor of agricultural education, Columbus, Ohio; "The Importance of Maintaining an Educated Citizenry," by William J. Bogan, superintendent of schools, Chicago.

Arrangements have been made for special railroad rates to Minneapolis and St. Paul, Minn., of one and one-half fare for the round trip. Identification certificates will be provided members of the N. E. A. on request, by J. W. Crabtree, secretary, 1201 Sixteenth Street, N. W., Washington, D. C., and by state secretaries and state directors. No adjustment of fare can be made after arrival in the twin cities for those who neglect to secure a certificate and purchase a round trip ticket.

Editorials

Cooperation Is Vital

PUBLIC education is facing the greatest crisis and the most difficult problems it has met since its inception and development as a free institution.

Evidence is plentiful that in all preceding depressions the people urged themselves to greater effort to maintain their schools. Appropriations were increased, not diminished. Today the situation is quite the reverse. Public school budgets have been decreased along with all other expenditures but—cutting has not stopped at that point. Public schools are taking in many instances much more than their proportional share of the general shrinkage in public revenue. When this decrease is due to increased economy of operation there is nothing to be said, but in too many instances for one reason or another school districts have been crippled or completely closed. Much of the blame for this situation must be laid on our archaic tax system.

The growth of these tendencies, stimulated by certain small groups whose interests are opposed to public education and by certain national publications that see in expenditures for education decreased advertising revenue and hence smaller private profit, has been reflected in the attitude of many school executives. They are nervous and harried. They see nothing but dark horizons and feel themselves impotent against forces that are difficult to combat openly and whose power they fear. As a result, many of our leaders are striking out blindly and they may do more harm than good.

We believe in fighting hard when the necessity arises but more than that we believe in fighting intelligently along the entire front. There is no need of kicking your neighbor in the shins because you are angry with a man named Smith in another city. Let us analyze the situation.

First of all, all teachers and administrators must realize the immensity and the depth of the current economic debacle. It does not have its equal in our history. The farmer, the baker, the manufacturer and the banker have all been hit more seriously than most of the teachers. Education is in the same boat with all other activities. The boat has lost headway and there is much water in the hold. We cannot make progress by pointing fingers or calling names. We must take our turn at the pumps.

Viewed objectively, public education is still an essential community activity. The schools are primarily concerned with the development of children for their social and individual lives. The parents of these children have not changed their attitude since the beginning of the depression. The generally constructive attitude of our abler community leaders has not changed. The change is in the economic situation which has carried in its train uncertainty and fear. The small antagonistic interest-groups are more vocal than in normal times and probably more potent. It is, however, well to remember that they still represent only minority interests that are utterly opposed both to parental interests and to the general social welfare.

We believe that progress can be made only as the professional group in each community sits down quietly and studies its particular problems, earnestly and intelligently. It is well to remember that more progress will come through intelligent cooperation between different elements than through an attempt to fight with and antagonize groups and interests not fundamentally opposed to public education but merely seriously disturbed and thrown off center by the terrific impact of the economic blow. We believe further that salvation will come through the efforts made in each community. We can expect no fall of manna from the skies or any other kind of a miracle. The problem is education's problem and it must be met and solved within each community.

One of the most effective means of meeting current conditions is the organization of a general public relations program that will keep the profession as well as the individual parent informed. As a part of such a program it is strongly recommended that each local board of education and superintendent, having thoroughly surveyed and become completely familiar with the local problems and needs, bring into being in each community an organization, or community council, representing its major economic, social and religious interests. Let these men sit around a table several days a week and discuss frankly all phases of the community needs and problems, of which education is only one. Let all facts bearing on the situation be brought forward and the needs driven home, not in an effort to maintain teachers' salaries but from the standpoint of the needs of the children. Through the development of confidence and an intelligent understanding of conditions and the potential dangers of the situation, each community will then be enabled to go forward with a united front to develop an emergency program and to lay the foundation for a long time program. The public opinion created through this program of education and cooperative action can then be focused on

each state as a whole and general measures planned and steps taken to overcome difficulties that are beyond local control.

There is no magic in this crisis. It can be solved only through general acceptance of fundamental principles. Little advantage is to be gained by useless strife. Unrestrained community emotions may lead to disaster. Cooperative understanding is a much more intelligent way and is really the only way by which the needs of the children can be protected. It demands hard work in fact finding, patience in bringing community leaders together, even greater patience in educating these leaders regarding actual conditions and in bringing parents to think more carefully about their children's and their nation's future. It is unwise to fight with our friends merely because a severe economic headache has thrown their usual smiling urbanity out of balance. Neither the people nor the leaders are fundamentally opposed to the educational program. They do not understand and they are nervous. Let us look at the problem in a neighborly fashion and set up local machinery in each community for the development of cooperative effort.

Politics Again

THE separation of public education from the whims, vagaries and practices of partisan politics has been stressed as one of the working principles in administrative theory for so many years that it is difficult to trace its origin.

Every survey of any consequence in the last two decades has denounced any attempt to link schools and municipal politics. The platform utterances of educational leaders are filled with vigorous declamatory repudiation of such an unholy alliance. It seems difficult for most superintendents to go through a year without making at least one speech against politics in education. The meetings of teachers' organizations and of parent-teacher organizations are replete with warnings. In practice this principle has been given much more lip service but much less actual and conscientious observance than the verbal stage setting would appear to justify.

There is little doubt that the ultimate safety and welfare of public education demand careful and continual struggle against professional politics and professional politicians, who see in the schools an opportunity for the construction of a machine whose potentialities have only been guessed at. There must be more serious education of the people to the dangers of political control and interference. There must be more rigid practice of these preachments by the educators themselves.

The present time affords an opportunity that should not be neglected. From all appearances it seems as if the position of commissioner of education, the titular chief of public education is to become a prize for partisan followers of the democratic party. While many may shrug their shoulders and feel that the matter is out of their hands and beyond their power, the fact remains that unless a vigorous protest does take form against this policy, it will be carried out as a routine matter. We believe that the professional educator should use this opportunity to protest against a practice that breaks the old tradition and makes the commissioner of education a political appointee.

The psychologic effect of having political expediency rather than educational proficiency govern the choice of the chief educational officer cannot help having a bad effect on the lay leaders of education within the local communities. In times as uncertain as the present there is great danger that the practice may spread.

We believe that public education, through its local teacher organizations, through its state assemblies and through its national organizations should voice immediately a vigorous protest against this impending action. It is an excellent opportunity for the National Education Association to exercise leadership. We do not believe that the Department of Superintendence at its Minneapolis meeting can afford to ignore the issue. Strong resolutions from these major professional organizations should condemn the practice, and to their protests should be added those of the forty-eight state education associations. Such leadership would certainly help in putting the profession right on this issue and might result in considerable hesitation on the part of those responsible for personnel changes. These protests should be sent directly to President-Elect Franklin D. Roosevelt.

No Cause to Cheer

OFFICIAL pronouncements have come during the past two years from the office of the surgeon general of the U. S. Public Health Service and from the President to the effect that the nation's health was never better and that one of the unforeseen benefits of the depression, in addition to its "spiritual rebirth," is the improved health of the country.

These pronouncements, however, should be made with care and with due regard for underlying conditions and facts. They should not be generaliza-

tions based on undigested mass statistics. While the gross results undoubtedly are as reported by the several bureaus, the actual conditions are nothing to cheer about, although it is possible that thousands of adults have improved their health by forced dietary restrictions.

The mass statistics, however, hide the serious conditions that prevail among children in medium sized and large urban centers. Few children may actually be starving but interviews with hundreds of welfare workers and a study of the rations assigned to young children (outside of school feeding) indicate that the food is sufficient for maintenance but not for growth. In other words younger children are actually being assigned a ration so small that no provision is made for the building up of essential reserves. For a year or two this false condition may give a favorable statistical result but the future does not look so bright.

A better long time social strategy would be to consider the mass statistics for their index value and to study the actual conditions of urban childhood with which most teachers are familiar. The results would not be comforting to any political program.

The future of our poorly nourished children is something to consider. Each community needs a survey of conditions and tendencies, to be conducted by its own health and school officials. If the truth were known, there would be no occasion for ballyhoo. Many children are having their future chances definitely restricted. The effects of an epidemic would be too serious to contemplate. Our children are too near the danger line for comfort.

A halt should be called on sweeping generalizations from mass data and the attention of each community should be focused on the problem of child welfare as it actually exists. Schools and health departments can perform valuable services by studying conditions among the children and bringing before their communities the problems and the dangers. We must become realists long enough to face facts and to set out with determination to give protection to the children.

An Unfortunate Condition

THERE appears to be an oversupply of teachers in every state, due to a number of reasons. Competition for work, among administrators as well as teachers, is developing an unfortunate situation. The functional concept of the teacher as a means to an end, judged with respect to her contribution to the instructional process, is rapidly disintegrating in both rural and urban communities. The idea of schools existing as a means of furnishing "jobs" to young men and young women is being developed rapidly, stimulated in many places by superintendents and boards of education. It is hardly possible to read the daily papers without seeing each week some reference to "teaching jobs going to lowest bidders." Apparently this fact is still considered unusual and is reported as news. At the present rate it will soon cease to be news and become custom.

The practice of offering teaching positions to the lowest bidder regardless of individual qualifications cannot be criticized too harshly. Every reasonable effort should be made by members of the profession to maintain the professional sentiment against such undesirable and extravagant practices and to create a public opinion that will prevent the schools from being used for exploitation by individuals who under the stress of conditions appear to have forgotten professional ethics. State professional publications should bring practices of this kind before the public and should show how dangerous the tendency is for the welfare of the children. Boards of education engaged in such extravagance should be publicized by the profession and the people informed of the natural results of this practice.

Even under the peculiar conditions now existing, it is the duty of the teaching profession to keep the schools intact and in good operating condition.

Section Q

IN SECTION Q, in affiliation with the American Association for the Advancement of Science, the scientific movement in education has unusual opportunities. The nature of the organization makes it possible for serious workers in research, both in university and city school systems, to come together annually and present in intimate professional discussion their problems and the results of their research.

The annual meeting of this group is quiet and devoid of much of the extrinsic activity that characterizes other educational gatherings. It can be made distinctly a work section. In addition, the unlimited possibilities of cooperative contact and relationship with scientists in other fields, offers an excellent opportunity for developing that understanding and cooperation so essential to the welfare of the scientific movement in education. It appears worth while for educators to take more than passing interest in this organization and to support it to a greater extent than they have done in the past.

Happy to Say—By WILLIAM McANDREW

EVERY pain is a defeat. But every defeat is not a pain. Think of this when the other fellow is elected.

SAID Socrates "The study of philosophy is for learning how to die." But you know that education is learning how to live.

IF YOU fear you are getting to use your teaching position as a mattress, ask the principal to give your class a battery of achievement tests.

YOUR second childhood to prepare for, is one that delights in friendships, fun, favorite toys, confidence, trust and being sure of your supper. No sane person sniffs at this.

YOU needn't utterly condemn the wearing of masks. The features and mind behind the cheerful front take on, in time, the shape of the false face.

FUNNY how the joy of the old kings in "a contented people" has persisted among the desirers of would-be managers of a democracy. You know well enough that a nation's progress always springs from its discontent. You know, too, that the most of school teaching about America has been in the strain of "biggest, happiest nation in the world." So has education lulled patriotism to sleep till now we find what our own folks have done to us. It is as if the medical school abstained from teaching the coming doctors what the most prevalent and dangerous diseases are. It is your job, now, to see that the economic, social, civic ailments of your country are brought to the attention of those who are soon to be confronted with the duty of cooperative self-government. Have you a little Tammany in your home town? Sure! Every town has this disease. To prevent and cure such, schools were made a public service as much as police and courts. So long as you keep school away from this you are as guilty as the teacher in the medical school who neglects the epidemic around the college.

WE DON'T get very far merely hoping for wise leaders. Where wisdom is now most needed is in ourselves, in order to decide whom to follow.

ONE tragic blight on educators is that they formulate aims after they write their curricula.

THE silence of an assembly of pupils when a principal stands up before them is no personal tribute to him. They will treat his successor the same.

EVERY class I ever taught had some pupils who were better ball players than I, or better singers or pianists or laughers or more pleasing to look at than I. When I grew old enough to be put in charge of a staff of teachers, the same thing was true of them as compared with me. Respect for all these was, therefore, logical and easy. It is a schoolmaster's luck that he spends the most of his life with respectables.

A BOARD guiding a superintendent is a sad familiar sight. A superintendent guiding a board is a glimpse of the educational millennium. A school board asking to be guided is a foretaste of heaven on earth.

BERTRAND RUSSELL complains that the worship of the British flag suggests to school children not the work of Shakespeare and Darwin but of Nelson, Wellington or some other destroyer. Every time American children are asked to look at the flag and then say what name it suggests, they mention a lovely seamstress. This at least the Daughters of the Revolution have done for us.

PRAISE generates energy, but not much wisdom. It takes blame to do that. And too much of either kills both.

TRAINING schools attempt the tough task of making you wise by the experience of others. Such wisdom may not be very deep, but it is getting wider every year.

THE best talkers you have known were not the best teachers, but you never knew a good teacher who was unable to talk well about what she was aiming at.

I CAN remember when schoolmasters by frozen dignity aimed to be reputed wise. Now they have accepted Montaigne's dictum that wisdom requires a cheery spirit.

School Boards Neither Manage Schools Nor Buy Supplies

A recent study of school board practices in 1,000 cities shows that in the majority of cases, the modern board now delegates administrative functions to the superintendent

IT IS only within recent years, largely because of tradition, that school boards have paid more attention to fundamental policies than to the details of administration. As late as 1925, a study of the work of 836 school boards showed that some of them had not yet learned to delegate administrative duties to those who were employed specifically to perform them.

The transition from direct to indirect management has been slow. A recent study of school board practices in 1,000 cities ranging from 2,500 to more than 100,000 in population, however, shows that, in a large majority of cases, the modern school board delegates administrative functions to the superintendent.

Board Is a Policy Forming Body

Since the school board member is no longer the manager of the school system but rather a member of a directing board, an analysis of the function of a board of directors seems appropriate at this point.

The average citizen is no better qualified to assume direct control of a modern school system than he would be to manage a hospital or a bank. This does not mean that the ordinary citizen cannot be an efficient member of the board of directors for either a school, a hospital or a bank. In either case the directors need to be well informed, but technical training is unnecessary. Bank directors need not be bankers; directors of a hospital need not be doctors or surgeons; school board members do not have to be educators. The directors of a bank entrust its administration to a man whose character, professional training and experience qualify him for that work. The directors of a hospital do not select the members of the hospital staff or employ the elevator boys. They do not tell the surgeons how to remove tonsils, or the nurses when to take the temperature of their patients. How absurd it would be if they considered it their duty to select and purchase the surgical instruments, the hot water bottles and the bandaging gauze! It is equally inappropriate for school directors to occupy themselves with technical or routine affairs. The board of directors of any respectable corporation is a policy forming body. It is not created to manage the enterprise, but to study the needs and possibilities and outline a course of action; to employ trained workers to carry out its policies; to pass judgment on the results obtained. The function of a board of directors is not to do, but to get things done.

The superintendent of schools is in the best position to supply the board with facts, to interpret them with reference to local problems and to make recommendations to the board. He has access to helpful information in many publications, such as: (1) general books and magazine articles dealing with school administration; (2) annual reports of superintendents of schools; (3) regular publications of state departments of public instruction and state education associations; (4) bulletins and other publications of the U. S. Office of Education, and (5) the research bulletins, yearbooks, committee reports and other publications of the National Education Association. Moreover, he can readily secure the cooperation of the local library, the county superintendent, and all the state and national agencies listed above in securing unpublished data. The board may properly turn to the superintendent for leadership and expect him to supply information relating to its various problems.

Employing a Superintendent

The school board's most important personnel duty is the selection of a superintendent of schools. The superintendent occupies a key position. On the one hand, he brings to the board the benefit of his training and experience as an educator. He advises the board on administrative problems, provides it with facts, makes a constant study of the school system and recommends to the board the

program best adapted to the educational needs of the community. On the other hand, the superintendent is the administrative officer of the board. He carries out the board's instructions, transacts business for it, puts into effect the program which the board adopts, directs the work of all other employees and assumes responsibility for the effectiveness of the entire school system. Hence, it is essential for the board to select the best superintendent that it can secure for the salary that the district can pay.

The board may well formulate a clear statement of the qualities which it expects the superintendent to have, before considering applications for the position. Board members cannot afford to depend merely on their general impressions of a candidate. Although the standards of one board will differ from those of another every board will be concerned with standards of at least three types: (1) the superintendent's qualifications as an educator; (2) his business ability, and (3) his personal qualities. Each of these factors is important and each may be defined in rather specific terms.

Superintendent Is a Business Manager

The superintendent is—either directly or indirectly—a business manager. The administration of a community's school is often the largest business enterprise in the district. The superintendent, therefore, needs to be a man of unquestioned business ability, especially when business management is one of his personal responsibilities. He should be able to buy economically and to recognize value. He should be able to manage well the sums now available for education and to plan wisely for the future. Recommendations relating to a candidate's business ability are helpful, but even more reliable are the evidences of business ability disclosed by the financial reports of the district in which he has been working. Changing towns seldom makes a good business manager out of the one who has managed poorly in another district. Conversely, good management in the one instance predicts good management in another.

The duties of school boards with respect to the maintenance and repair of buildings should not be great. Again it is the duty of the administrative officers to report conditions and make recommendations. The board should decide what is to be done, instruct the administrative officer to see that its plans are carried out, and hold him responsible for getting the work done in an efficient manner.

The selection of textbooks, equipment and supplies is the work of a specialist. Their purchase is an administrative detail. Neither is the proper function of school boards. More important duties demand their attention. That this is recognized by a large majority of school boards is indicated by a study that was conducted in forty-nine cities with a population of more than 100,000. Not one school board in this group of cities actually selects textbooks and supplies. Relatively few boards do so even in the smaller cities.

The school board has been represented as an agency concerned with (1) making decisions on matters of school policy, (2) delegating administrative duties and (3) making a continuous follow-up. The importance of each phase of this threefold task should now be apparent. If the board does not adopt definite policies, the school system resembles a ship lost in mid-ocean. Its captain, the superintendent, is without a chart or a compass. His experience may enable him to bring the ship safely to port; but the risk is great for the shippers, the captain and the cargo. The board must assign administrative routine to its executive officers if it is to perform its own major functions. The follow-up serves two purposes. In the first place, it shows how well board policies are being executed. Second, the outcome of present policies should enable the board to plan more wisely for the future. Either value is sufficient to justify careful and continuous study of the results attained. Frequent and adequate reports from those to whom authority has been delegated are of first importance. Failure to delegate authority is the height of folly, but giving authority without fixing responsibility is an equally unwise procedure.[1]

Teachers' Cost of Living

Every superintendent, principal and officer of a professional teaching association should study carefully Circular No. 1, 1933, published by the Department of Superintendence and the Research Division of the National Education Association on "Estimating Changes in Teachers' Cost of Living." A simple and practical formula is offered whereby the cost of living for teachers in any community may be quickly determined on a basis somewhat more valid than that of the Bureau of Labor Statistics index.

At this time it is highly desirable that each school district determine and publish facts on the relationship between falling salaries and the cost of living index. These data, easily secured and quickly graphed, may be effective in the presentation of such facts to local boards of education and to the people.

[1]Excerpts from the Research Bulletin of the National Education Association, The School Board Member, Vol. 2, No. 1, Jan., 1933.

News of the Month

Financial Predicament of Schools Described in Report

The problem of getting financial support for America's schools and institutions of higher education has become acute, states Dr. Charles H. Judd, director of the school of education, University of Chicago, in the chapter on "Education" of the report of the President's Research Committee on Social Trends, recently made public. It is getting increasingly difficult to make taxes and gifts for education meet the demands growing out of the expansions in education in recent years, according to Doctor Judd.

Total expenditures of public elementary and secondary schools in the United States amounted to $2,316,790,000 in 1930, or more than ten times the expenditures for the same grade of schools in 1900, according to tables presented in the chapter based on statistics furnished by the U. S. Department of the Interior. Total expenditures for these schools more than doubled in the ten years following the year 1920.

From the same source figures are given in the chapter showing that the value of all school property in this country was $6,211,327,000 in 1930 or considerably more than eleven times the value in 1900, when it was $550,069,217. The value of all school property had nearly doubled in 1910, when it stood at a little over $1,000,000,000. It grew two and a half times in the next decade to nearly $2,500,000,000. The further increase in 1930 to well over $6,000,000,000 much more than doubles the 1920 figure.

Value of School Property Much Greater

In 1900 the number of pupils enrolled in elementary and secondary schools in the United States was 15,503,000, increasing to 25,678,000 in 1930, and thus the average value of school property per pupil in 1900 was only $35.48 as compared with an average value per pupil of $241.85 in 1930, the chapter shows.

Receipts of universities and colleges amounted to $40,554,000, including additions to endowments in 1900, and to $567,618,000 in 1930, exclusive of additions to endowments.

A little more than one-half of the school expenditures, exclusive of payments of bonds, goes to teachers, the proportion being less than formerly. In 1920 it was 57.3 per cent, in 1922 exactly 55 per cent, in 1924 and 1926 approximately 52.5 per cent, in 1928, 53.4 per cent, rising to 54.2 per cent in 1930.

The President's Research Committee on Social Trends was appointed by President Hoover three years ago to make an appraisal of the nation's changing social life through extensive researches into the shifting social trends of the first third of the twentieth century. The committee's report stresses the long time social problems facing the American people and deals with national policies which will be in the process of formulation and reformulation for years to come.

A grant of funds by the Rockefeller Foundation made the investigations possible.

The report is published by the McGraw-Hill Book Company, New York City.

Junior College Group Will Meet in Kansas City

The American Association of Junior Colleges will hold its thirteenth annual meeting in Kansas City, Mo., on February 24 and 25. Headquarters will be at the Muehlebach Hotel.

Among the topics that will be considered on the first day of the meeting are: the junior college curriculum, junior college organization in Kansas City, research on junior college problems, junior college aims and the status of the junior college.

Topics to be considered on the second day of the meeting are: the junior college curriculum in the private junior college, personnel work at the junior college level, class size in the junior college and social adjustments in the junior college.

Among the speakers on the program are: Walter C. Eells, Stanford University; George Melcher, superintendent of schools, Kansas City, Mo.; L. W. Smith, superintendent of schools, Berkeley, Calif.; Doak S. Campbell, George Peabody College, Nashville, Tenn., and A. J. Brumbaugh, dean, University of Chicago.

Arthur I. Andrews, Grand Rapids Junior College, Grand Rapids, Mich., is president of the association.

News of the Month (Cont'd)

London University Will Build Large Structure

London University, London, England, which, although the largest institution of its kind in Europe and nearly a century old, has never had a home of its own, is to have a vast new building.

The great structure planned will cover, with its open spaces, ten and a half acres in the heart of London, will cost £3,000,000, and will take possibly thirty years to complete. Construction work will be started this year. The span of the building from the central tower of the end turret will be about a quarter of a mile in length. The tower will be 225 feet high, the wings eighty feet high and the apex of the center building still higher.

Little if any steel will be used in the structure. It will be a stone building carrying its own weight. The architect's view is that there has been no test for durability of a steel stone cased structure for longer than fifty years, and he is planning the building to last 500 years.

Child Problems Discussed at Chicago Meeting

The crippled child, behavior problems of children, the delinquent and the dependent child were discussed in a public meeting, January 11, sponsored by the Chicago Medical Society. Among the speakers were Anne S. Davis, director, vocational and educational guidance bureau, board of education, Chicago; Dr. Paul L. Schroeder, director, Institute for Juvenile Research; Dr. James P. Molloy, Jr., clinical director of the institute, and Judge Mary Bartelme, juvenile court of Cook County, Illinois.

Rotary Headquarters for Winter Meeting

In order to ensure maximum attendance at the joint luncheon of the School Masters' Rotary Club and the Minneapolis Rotary Club, which will be held during the meeting of the Department of Superintendence, Wednesday, March 1, Sam T. Neveln, secretary, has designated Booth E 21, occupied by The NATION'S SCHOOLS, as Rotary headquarters for the week. Tickets for the luncheon will be on sale at this booth.

Secretary Neveln urges all Rotarians to purchase their tickets early. Rotarian John A. McNamara, Chicago Rotary Club, executive editor, The NATION'S SCHOOLS, will be in charge of the sale of tickets at the booth.

A. A. Stagg to Receive "American Education Award"

At the meeting of the Department of Superintendence of the National Education Association to be held in Minneapolis, February 26 to March 2, Amos Alonzo Stagg, the seventy year old director of physical education at the University of Chicago, will be presented with the "American Education Award." Each year, at the Department of Superintendence meeting, the Associated Exhibitors present this award to a person who has made a definite contribution to some phase of education. Lotus D. Coffman, president, University of Minnesota, will make the presentation.

Mr. Stagg was chosen because of his contribution to character education through the medium of physical education and competitive athletics. The Associated Exhibitors are paying tribute to the example he has set others in the field of physical education, by showing how in the building of a body to physical fitness and by the discipline of training for competitive athletics, it is possible to develop the character of a student.

Mr. Stagg has represented the United States six times as commissioner to the Olympic games. He has served the University of Chicago as director of physical education for thirty-two years and has been honored many times because of his untiring efforts to place competitive athletics on a better basis, in the small as well as in the large schools.

The presentation of the American Education Award will take place during a banquet at the Nicollet Hotel, Minneapolis, on February 28. It is estimated that approximately a thousand exhibitors and delegates to the convention will be present.

Mr. Stagg, who is retiring this year from the University of Chicago, under a seventy-year rule, has accepted the position of football coach at the College of the Pacific, Stockton, Calif.

In the Educational Field

HAROLD V. LOOMIS, who has served as acting superintendent of schools, Ossining, N. Y., since the death of EVERETT A. BARTO, has been appointed superintendent of the school system.

C. E. ROGERS has been elected superintendent of schools, Johnson City, Tenn., for a period of three years.

EDGAR G. WIPPERMANN, for the past eleven years superintendent of schools, Sheboygan Falls, Wis., has been named head of the school system at Columbus, Wis. HARRY E. MERRITT, formerly superintendent of schools at Columbus, has been appointed high school supervisor in the Wisconsin Department of Public Instruction, succeeding the late S. M. THOMAS.

FREEMAN PUTNEY, superintendent of schools, Gloucester, Mass., from 1888-1915, died recently at his home in South Weymouth, Mass. MR. PUTNEY was in his eighty-sixth year at the time of his death.

B. LORD BUCKLEY, founder and headmaster, Buckley School for Boys, New York City, died recently at the age of sixty-one years.

CHARLES F. FISHER was recently elected superintendent of schools, Robertson County, Tennessee, succeeding WILLIAM M. MCNEELEY, who did not seek reelection after serving as superintendent for the past fourteen years.

DR. HARRY WOODBURN CHASE, president, University of Illinois, has resigned to accept the chancellorship of New York University, effective at the end of the present academic year.

DR. ALFRED E. STEARNS, headmaster, Phillips Andover Academy, Andover, Mass., since 1903, has resigned his position because of ill health. Stricken early in the scholastic year 1931-32, DOCTOR STEARNS has been on leave from the academy ever since. He went abroad last fall in an attempt to regain his health. DOCTOR STEARNS' letter of resignation was written at Nice, France, on January 1. DR. CHARLES H. FORBES, acting headmaster during DOCTOR STEARNS' absence, will continue in that capacity, while DOCTOR STEARNS has been named headmaster emeritus by the trustees.

DR. WILBUR F. DUNHAM has been named superintendent, Fort Wayne State School, Fort Wayne, Ind., succeeding CHARLES A. MCGONAGLE.

R. L. JONES, superintendent of schools, Memphis, Tenn., was elected president, Tennessee Public School Officers' Association, at the organization's recent convention.

GEORGE N. NORTHROP, headmaster for the last six years, Chicago Latin School for Boys, Chicago, announced his resignation on January 30.

W. P. FLATT has been elected county superintendent of education, Putnam County, Indiana.

DR. HORACE ELLIS, formerly superintendent of public instruction for Indiana, died recently at the age of seventy years. DOCTOR ELLIS had previously served as superintendent of schools at Indianapolis and Franklin, Ind., as president, Idaho State Normal College and as president, Vincennes University.

IRA B. FEE was recently named superintendent of schools, Missoula, Mont.

CLYDE M. BLAIR, superintendent of the Klamath Indian Agency, Klamath, Ore., will head the Haskell Institute, government Indian school, for the balance of the present academic year. MR. BLAIR'S new assignment is not regarded as permanent, since he is scheduled to become superintendent, Albuquerque Indian School, Albuquerque, N. Mex., about July 1, succeeding REUBEN PERRY, whose retirement on age becomes effective on May 1.

MARK B. FURMAN, district superintendent of schools, second district, Monroe County, New York, was recently elected president, New York State Association of District Superintendents.

REV. DR. JOHN MYERS FURMAN, owner and headmaster, Irving School, boys' preparatory institution, Tarrytown, N. Y., died January 24, following an operation. DOCTOR FURMAN, who was sixty-six years of age, had been owner of the Irving School since 1891.

SAMUEL WILLARD PRICE, head of New Haven College, New Haven, Conn., has been appointed superintendent of schools, Madison, Conn., succeeding the late FREDERICK EARL BALDWIN.

HERMAN A. LEWIS has been appointed superintendent of schools, Vinton, Ohio, succeeding C. H. JONES.

DR. HUGO NEWMAN, principal, New York Teachers Training College, New York City, which was recently closed as an economy measure, has

WHO ELSE CAN... CLAIM

AND WHO CAN.. PROVE

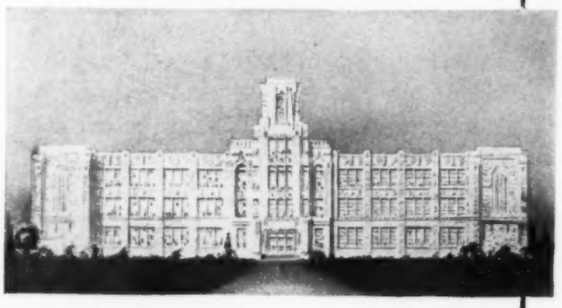
TRUE MODULATION

Modutrol System

SELECTED IN MILWAUKEE SUBURB AFTER COMPETITIVE TEST

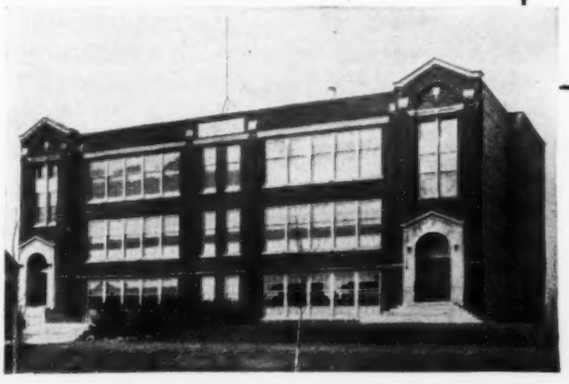
■

The Nathan Hale Junior High School, West Allis, Wis.
Lindl & Schutte, Inc., Milwaukee, Architects; H. M. Miller, Milwaukee, Heating Engineer; S. V. Hanley Co., Milwaukee, Heating Contractor; Jezo Construction Co., West Allis, General Contractor.



The Modutrol System of temperature control was selected for this new Milwaukee suburb school following exhaustive tests at the challenge of competitors, and which clearly proved the Minneapolis-Honeywell claim of true modulation necessary for satisfactory control results.

The Woodrow Wilson School, where competitive tests were run concurrently in identical rooms and under the supervision and direction of the West Allis Board of Education.



BOARD OF EDUCATION
CITY OF WEST ALLIS
WEST ALLIS, WIS.

Dec. 6, 1932

Minneapolis-Honeywell Regulator Co.,
Minneapolis, Minn.

Gentlemen:

Last night the School Buildings, Grounds and Supplies Committee recommended the change in the specifications on our new Nathan Hale Junior High School from the pneumatic system of temperature control specified to your electrical control. This recommendation was made after a six weeks intensive competitive test held by the Committee at our Woodrow Wilson School. The Board accepted and approved the recommendations unanimously.

Outside of the slight difference in cost, in my opinion, the one feature brought out in the tests which led the Committee to make this change was the uniform discharge temperatures which you produced. I believe that with this uniform discharge temperature we will eliminate drafts which have been a weakness in our heating and ventilating systems.

You will undoubtedly receive the official notice of the changes made within a day or two from the Secretary of the Board.

I wish to take this opportunity to personally thank you, the men working out of the Milwaukee Branch and all employees of your Company who contributed in making this test, for the fine cooperation and spirit shown the Committee.

Yours very truly,

Porter Redcliff.

Minneapolis-Honeywell Regulator Company, 2820 Fourth Avenue South, Minneapolis, Minnesota. Branch or distributing offices in all principal cities

■

MINNEAPOLIS-HONEYWELL

Control Systems

In the Educational Field

been elected district superintendent of schools in the Bronx, to succeed JOSEPH E. WADE, resigned. DR. FREDERICK L. HOLZ, principal of the recently closed Maxwell Teachers Training College, New York City, has been named district superintendent of schools in Queens Borough, to succeed ARTHUR C. PERRY, JR., who retired recently.

ALDEN B. HAYES, superintendent of schools, Presque Isle, Me., for the past three and a half years, died recently of influenza. MR. HAYES was superintendent of schools at South Paris and Woodstock, Me., from 1922 to 1929. He was forty-one years of age at the time of his death.

A. G. ELMORE, superintendent of schools, Stanislaus County, California, has resigned his position on account of ill health. Mrs. Elmore has been appointed to succeed him.

THOMAS C. BURTON, for the past four years headmaster, Staten Island Academy, New Brighton, S. I., N. Y., has resigned. MR. BURTON will devote his time to educational research.

Nearly 90,000 Pupils of Alabama Schools Find Doors Closed

With no funds left in the treasury of the state department of education, nearly 90,000 Alabama rural school children faced closed doors when the 1933 school term opened on January 2.

Figures compiled by Dr. Dale S. Young, statistician for the state department of education, show that 826 rural schools, with an enrollment of 64,070 elementary and 21,692 high school pupils, have closed. These schools are in twenty counties. About 2,500 teachers are involved.

In addition to the rural schools the towns of Dothan, Fort Payne and Russellville have closed their schools on 4,500 pupils.

Parent-Teacher Group Will Observe Founders' Day

Founders' Day will be observed by parent-teacher associations throughout the United States on February 17. On this day members of parent-teacher organizations will renew their faith in the motives which inspired the founders of the National Congress of Parents and Teachers twenty-six years ago. Gifts to the National Congress on this day from the million and a half persons active in the national child-centered movement will be used by state and national congresses to strengthen the parent-teacher work and to promote in new fields the high purposes for which the congress stands.

Conference on Business Education Will Be Held in Chicago

A conference on business education will be held at the University of Chicago on June 29 and 30, under the auspices of the school of business. The general theme of the conference will be "The Reconstruction of Business Education in Secondary Schools."

The Department of Business Education of the National Education Association and the National Association of Commercial Teacher Training Institutions plan to hold meetings in Chicago at the time of the University of Chicago conference.

Important workers in the field of secondary business education have agreed to contribute to the conference program. There will be ample time for discussion of professional problems at the regular meetings. In addition, two informal luncheons and a joint luncheon with the Department of Business Education and the National Association of Commercial Teacher Institutions have been planned.

Three Teacher Training Colleges Closed in New York

The three teacher training colleges of New York City—the New York Teachers Training College, the Maxwell Teachers Training College and the Jamaica Teachers Training College—were closed on February 3. The 1,931 students in the three colleges were transferred to teacher training classes in the three city colleges—the College of the City of New York, Brooklyn College and Hunter College.

The change is expected to effect a saving of $250,000 annually. The personnel of the closed teacher training colleges has been transferred to vacant places in high schools, and the three buildings formerly used by the institutions will be used to accommodate high school pupils.

35,000 square feet of Sealex Floors were chosen for the new buildings of the State Normal School at Trenton, N. J. *Architects:* Guilbert and Betelle, Newark, N. J. Linoleum Contractors: Newark Parquet Flooring Co. and Swern & Co. When Sealex materials are installed by an authorized contractor of Bonded Floors or Bonded Walls, they are backed by Guaranty Bonds.

NEW JERSEY STATE NORMAL SCHOOL

selects resilient floors of proved durability

SEALEX Floors have a special "proving ground" of their own. It is the thousands of leading educational institutions, such as the splendid new normal school illustrated above, in which Sealex materials have been installed.

In this vast proving ground, Sealex Linoleum has demonstrated that it can withstand the heaviest foot traffic for years without showing a sign of wear. It has proved that the ideal floor for school use is one that is *really resilient*—hence quiet and comfortable underfoot.

Right now is the strategic time to buy Sealex. Today you can cover the discolored or splintery old floors in your classrooms and corridors with a permanent Sealex floor at a price that would have seemed incredible just two years ago. Let us prove this—ask for estimates.

Sealex Wall-Covering. A remarkable new decorative material especially suitable for applying over shabby, hard-to-clean corridor walls. Sealex Wall-Covering is washable, fade-proof and stain-proof, lasts the life of the building without refinishing. Write our Architectural Service Department for further information.

CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

SEALEX
REG. U. S. PAT. OFF.
LINOLEUM FLOORS

News of the Month (Cont'd)

Public School Costs Drop 22 Per Cent in Three Years

The per capita cost of public education in the United States has decreased 22 per cent in three years, the U. S. Office of Education announced on February 2.

How schools are cooperating in reducing costs of public education is disclosed in reports now reaching the Office of Education.

Estimates based on data supplied for a special 1932-33 study indicate that the daily cost of education per child in school has been cut 14 cents since 1929-30. This is a decrease in per capita cost of 22 per cent in three years.

In 1930 the average daily cost of educating a child in the public elementary and high schools was 62.8 cents. In 1933 it is estimated the figure will be 48.7 cents. U. S. Office of Education statisticians have reason to believe that when final data are in, the resultant average may be even less than 48.7 cents.

Of the 62.8 cents spent daily in 1930 on each child, 12.6 cents went into new buildings and equipment and other improvements. Only 50.2 cents went into current expense, that is, teachers' salaries, books, coal, repairs and items of similar nature.

Of the 48.7 cents being spent each day this year, 4 cents go into buildings and improvements; and 44.7 cents into salaries, supplies and other current expense.

Comparison of data for other years shows that the decrease in 1933 is carrying per capita costs for public education to a level lower than any year since 1922. The average daily cost of educating a child in 1922 was 51.1 cents; in 1920 it was 38.9 cents for each child.

The comparative figures do not disclose the full extent of public education's reduction in costs. The figures do not take into consideration the increased proportion of high school pupils in the public school population. Since high school pupils cost about twice as much to educate as elementary school children, any change in the proportion has a profound effect on the expense of the school's undertaking.

In 1920, when the average per capita cost of public education was 38.9 cents, only 10 per cent of the school enrollments were high school pupils. In 1930 this proportion had risen to 17 per cent, and it is undoubtedly higher now—perhaps twice as high as it was in 1920.

This means that while the per capita cost for 1933 (48.7 cents) is 10 cents more than for 1920 (38.9) part of this increase is due to the greater percentage of high school pupils in the schools.

Progressive Education Group Will Meet in Chicago

The Progressive Education Association will hold its annual convention in Chicago, at the Palmer House, March 2, 3 and 4. The theme of the convention will be "Educational Implications of the Changing Social Order."

The conference will call on teachers and educators to exert a more vigorous leadership in schools and communities, and to face honestly and sincerely the economic and social crisis which is seriously affecting the program of the schools.

Educational Films Now Listed in Monthly Service

Producers of educational pictures now have a governmental service available which makes it possible for them to give potential exhibitors of their films detailed information concerning their monthly output of pictures, according to an announcement just made by the motion picture division of the department of commerce.

The new service will give a comprehensive picture of the field covered by the new films produced each month, the running time of each film, whether it is a sound picture or is silent, the size of the film and the method of distribution, according to the department.

Childhood Education Convention Will Be Held in Denver

The Association for Childhood Education will hold its annual convention in Denver, June 27 to July 1. More than one thousand teachers from all parts of the United States are expected to attend the gathering. Convention headquarters will be maintained at the Brown Palace Hotel.

The five-day program will be headed by educators of national and international importance.

Which wax WEARS LONGEST?

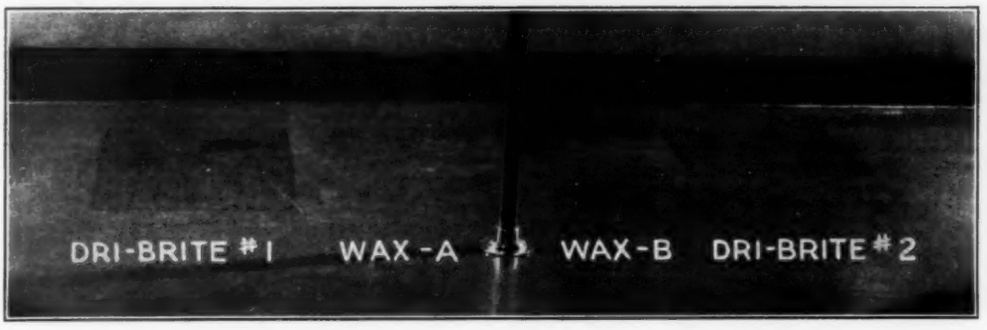
Here Are the Facts!

Completed wear tests* on Dri-Brite and two other nationally known liquid floor waxes were recently made by Foster D. Snell, Inc., Chemists—Engineers of Brooklyn, N.Y. A Brooklyn cafeteria serving 2000 people a day was selected as the proving ground. Areas 3 ft. wide by 2 ft. long on the runway where each person purchasing food passed, were waxed with identical quantities of Dri-Brite, Wax "A" and Wax "B". Dri-Brite was applied without rubbing or polishing. Wax "A" and Wax "B" were applied and polished up, according to the instructions of their manufacturers, until all areas had a satisfactory appearance. Photographs were taken, first, before any person walked on the floor and, second, at the end of the day's business.

Cafeteria Floor Before Test

(Unretouched Photo)

Note that there is little difference between the three waxes. Dri-Brite #1 shows a slightly higher gloss probably due to the condition of the floor at this particular spot. All areas, however, had a brilliant lustre.



Cafeteria Floor After Test

(Unretouched Photo)

The two Dri-Brite areas retained their gloss and showed appreciably less wear than Waxes "A" and "B". The latter showed foot prints more noticeably and became dulled by dirt quicker than Dri-Brite.

There is a definite reason for the wear-resisting qualities of Dri-Brite. Analytical tests by Foster D. Snell, Inc. show that of the three waxes tested Dri-Brite contains the most carnauba wax and moreover the largest percentage of carnauba wax on a basis of the film-forming ingredients. Carnauba is by far the hardest of the polishing waxes and therefore the amount of this wax present has a vital bearing on performance in actual service.

*Full details of the above test and data on the wax contents compared are available by writing to Foster D. Snell, Inc., 130 Clinton Street, Brooklyn, N.Y.

DRI-BRITE Liquid WAX

A Secret, Unduplicated Formula

FREE — Make Your Own Test

NS 2-33

MIRACUL WAX CO.
1322 Dolman St., St. Louis, Mo.

I should like to conduct a wear test on my own floor. Please send me free of charge a can of Dri-Brite with full instructions for use.

NAME .....

SCHOOL .....

CITY ..... STATE .....

Your School—
Its Construction and Equipment

A Department Conducted by CHESTER HART, B.Arch., Chicago

Dishwashing Equipment for the Large Lunchroom

The selection of proper dishwashing equipment, and its installation in relation to the lunchroom, serving counter and kitchen will obviate confusion, haphazard service and delay. Minimum costs in the cleaning department will also be obtained. The importance of rapid service and its resultant economy begins with the preliminary design of the lunchroom. Building costs are reduced in proportion to the possible reduction in size of the lunchroom because of fast service and rapid turnover. Efficient planning and proper equipment will also be reflected in operating expenses.

To meet the requirements of both large and small institutions, the Colt's Patent Fire Arms Mfg. Co., Hartford, Conn., has designed four new Autosan Dishwashers. The exterior appearance of the machines gives an impression of efficiency and cleanliness because the surfaces have few projections to catch dust and dirt, and consequently cleaning should be a simple procedure.

This conveyor type dishwasher has a capacity of 700 to 1,000 persons per meal.

The operating mechanism has been designed in keeping with the exteriors of the dishwashers. The heavy duty pumps are equipped with removable front plates for easy inspection and cleaning. A nonclogging and intercepting type of slotted spray arm is used to give fast, effective and positive cleaning because of its uninterrupted action. A final, boiling hot rinse spray is given to the tableware through special slot type rinsing nozzles. The spray arms are removable without tools, and the scrap trays may be removed without tipping and spilling the contents. Large leakproof doors in the side of the machine bring all inside parts within easy reach.

The larger dishwashers are equipped with two tanks and separate pump units, but the "R-2" model which has a capacity of 700 to 1,100 persons a meal, cafeteria service, has one. The "R-4" model has a capacity of 1,000 to 1,500 persons, and the "R-6" and "R-8" models will care for restaurants feeding approximately 2,000 persons. With machines of this capacity even the largest schools will have dishwashing facilities that are adequate for their needs.

Modern Blackboard Fittings Ensure Cleanliness

Two recent developments in blackboard fittings have as an objective greater cleanliness.

The Dustless Chalk Trough, made by the Oliver C. Steele Co., Spiceland, Ind., is designed to prevent chalk dust and small bits of chalk from accumulating on an exposed surface where erasers, hands and clothes may come in contact with the powder. The chalk trough is made from sheet steel and is triangular in shape, two angles being closed and the third an open slot through which the chalk bits and dust fall into a chamber that is continuous along the blackboard. The slot is just small enough to prevent chalk sticks from falling into the dust chamber.

The troughs are made in thirty-inch sections with a special overlapped connection that prevents

Open this gateway to your pupils

SOUND MOTION PICTURES

...the newest, finest way to offer visual education

THE modern, far-seeing school can ill afford to be without the visual advantages of sound motion pictures. This fact is becoming universally recognized . . . just as RCA Victor Photophone high fidelity motion picture sound-reproducing equipment is acknowledged to be the world's standard in quality and performance.

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CAMDEN, N. J., U. S. A.

The new VOCATIONAL SCHOOL, *Minneapolis*

and Many Other Schools Use ROCKFORD LOCKS *for Safety and Convenience*

Rockford Series of School Locks provide a maximum of safety, convenience, durability and economy. Each Rockford lock has been designed to meet some special modern school requirement. In the Rockford line there is a lock which supplies the answer to every school lock problem. Our long and varied experience in making locks of every description, assisted by the advice of school management experts, enables us to design locks that provide the utmost in practical utility together with ease of supervision.

No. 267 Master Keyed Combination Locker Lock.

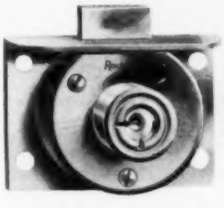
No. 268 Not Master Keyed.

No. 264 Master Keyed Combination Shackle Lock.

No. 265 Keyless Combination Shackle Lock.

Visit the Exhibit of Our Complete Line of School Locks in SPACE E-27 *at the* DEPARTMENT *of* SUPERINTENDENCE NATIONAL EDUCATION ASS'N C-O-N-V-E-N-T-I-O-N *at Minneapolis, Minn. February 25 to March 2*

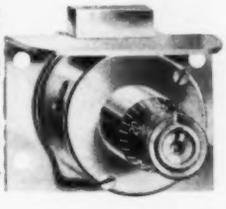
Write for our booklet which explains how Rockford Series of School Locks make school lock administration simpler, safer and easier.



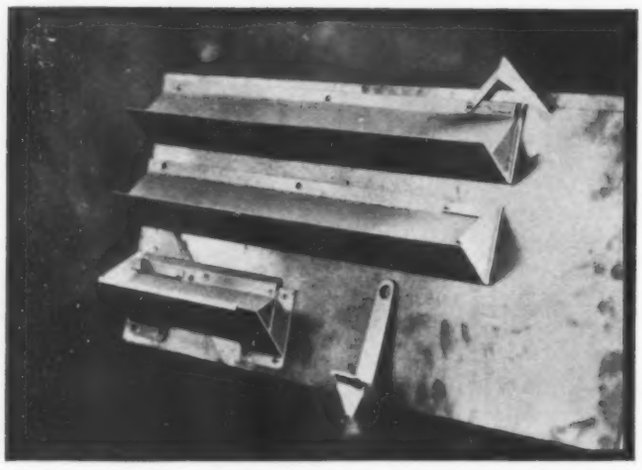
No. 253 Standard Key Drawer Lock.

No. 259 Master Keyed Combination Drawer Lock.

No. 260 Keyless Combination Drawer Lock.



National Lock Co., Rockford, Illinois

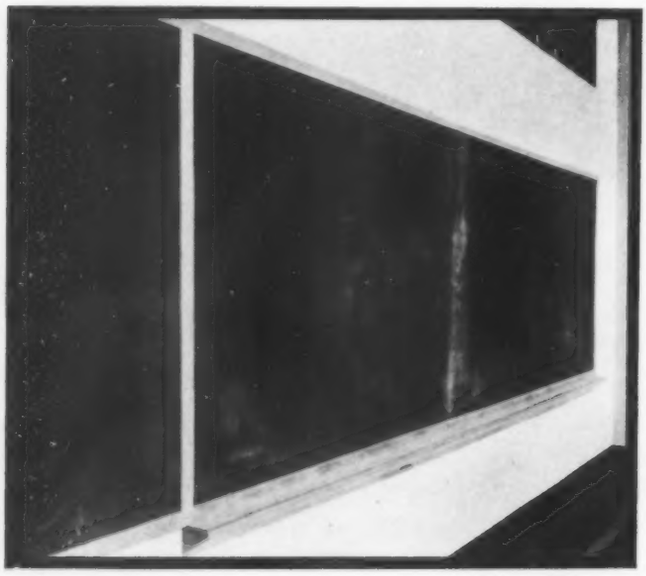


Dustless chalk trough, showing an open and closed end section.

dust from coming through the joints. The end sections are closed by a small triangular door. This trough may be installed by screwing it to the wall or molding at the base of the blackboard.

Cleaning is accomplished by placing a bucket at the end of the trough to catch the débris, and then passing a cleaning key through the dust chamber from end to end. The key is triangular and has a handle that projects through the dust slot. The end doors drop into place after cleaning.

Blackboard molding made of extruded aluminum is an innovation of the Kalman Steel Corporation, Bethlehem, Pa. Simplification of erection is obtained, and the elimination of warping and cracking, regardless of the condition of the plaster, makes an early installation possible. The tight construction possible with this molding prevents



Aluminum blackboard molding is used in the Kennett Square Consolidated School, Philadelphia.

chalk dust, as well as dirty water from seeping through and discoloring the adjacent walls. The metal surface requires no paint or varnish.

Nonclogging, Water Saving Shower Head Is Announced

A new type of shower head with nonclogging and water saving features has been developed by the Crane Company, 836 South Michigan Avenue, Chicago. The features of this shower head result from the use of machined grooves that form a circular pattern on the head plate. Two complete circles of nonintersecting streams that give the same spread but greater force than older types of shower heads are delivered by the Refreshor, which is the name given the new shower head. This spread and force are accomplished with three and one-half gallons of water a minute instead of the five to seven gallons previously required.

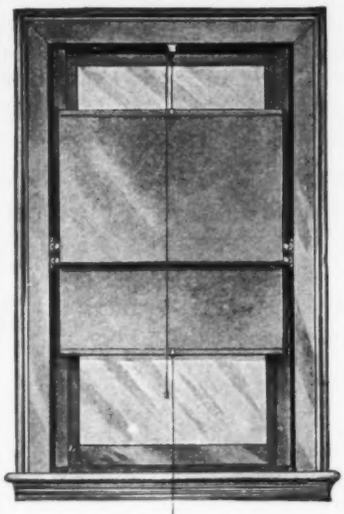
Thumb lugs on the face of the shower head per-

This newly developed shower head is designed to prevent clogging and to eliminate waste of water.

mit the head to be opened for cleaning without the use of tools. Since the face is not detachable it cannot be lost or stolen. If desired the face may be tightened into place with a bar which makes it impossible for tampering fingers to loosen it. The ease with which this shower head can be opened contributes to greater cleanliness and economy.

An Integral Unit Radiator for Space Saving

A new radiator that provides cabinet, grille and radiator all in a single unit and delivers both convected and radiated heat is made by the Shaw-Perkins Mfg. Co., Oliver Building, Pittsburgh. This radiator comprises an extended surface steel structure in contact with an internal copper tube in which the steam or hot water is confined. All surfaces, including the exterior, are joined in heat contact with the copper tube to provide an efficient and indestructible heat conducting union. The steel extended surface conducts heat from the copper tube, which contains the heating medium,



Double Hung Window Shade Installation

Two window shades are installed at center of window. One shade may be pulled up to cover upper sash, the other shade pulled down to cover lower sash. Double hung window shade installation is suitable for schools and hospitals. Permits control of light and air.

More Air No Glare

•

"Inter-Twill" Window Shades

•

The need for plenty of air in the school room has resulted in most school installations being double hung.

Good light is also necessary. The translucent shade passes ample light but cuts off glare.

Inter-twill,—is a twill woven fabric of exceptional strength and is recommended for its long wearing qualities as well as its low price.

INTERSTATE SHADE CLOTH CO.
HOBOKEN NEW JERSEY

and

LAPSLEY-INTERSTATE SHADE CLOTH CO.
BALTIMORE MARYLAND

NU-NOTCH

Cast Iron Mushroom Dome or Flat Top

Defies
"TAMPERERS"
No One Can Meddle With This Mushroom

YET, its fine adjustment is simple for the authorized person who holds the new special key. Keys are furnished with every Knowles Nu-Notch installation, assuring a positive, fixed flow of air as required.

The 10 recessed notches give complete air control.

Write for data and prices. Information also furnished on Knowles Tu-Way Air Deflectors, Disc-Loc Gallery Riser Ventilators, Damp-agrilles and other Air Diffusing equipment.

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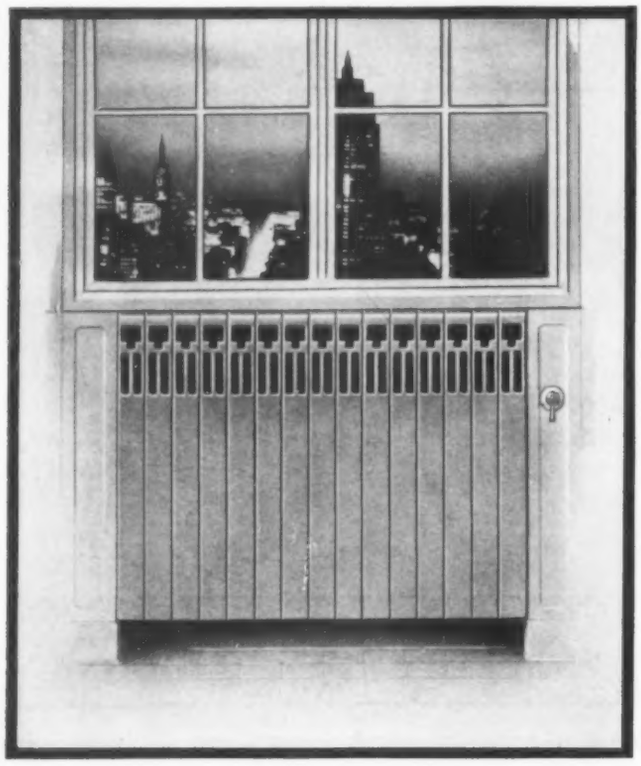
and gives it off, by convection, to the air that circulates through and over the radiator, and by radiation, from the exterior surfaces.

The exterior surfaces are continuous over the top of the radiator. They are uniform and smooth



with grille openings either in the top or side, depending on the type of installation. The outside surfaces may be easily wiped clean with a duster, and the interior, which has smooth flat surfaces may be readily cleaned through the bottom by vacuum or blower.

The radiator may be used in several different types of installations. Installed fully exposed upon legs or wall brackets, it provides its own radiator cabinet and grille. When recessed in the wall with the front exposed for radiant heat and appearance, it serves as a radiator, a radiant front panel, an enclosure and a grille. It may also be installed as a convector with ordinary recessed enclosures.

The radiator operates on vapor, vacuum, low or high pressure steam or hot water. The radiators are tapped for one or two-pipe systems with the openings on the same or opposite ends. High pressure steam or high temperature forced circulation hot water greatly increases the heat transmission. The exterior surfaces form a protective shield against the higher temperatures of the tube. This is especially valuable where the steam or water is carried at elevated temperatures.

A distinct advantage for classroom installation of these radiators is the narrow width which takes only three inches of aisle space, exclusive of connections. Radiators of this width may also be easily recessed in a twelve-inch brick wall, and still leave a sufficient thickness of brick panel for weather protection. The heights of these heaters vary from 14 to 23 inches, and lengths vary from 11 inches for a five-section radiator to 71 inches for a thirty-five-section unit.

This unit is designed for rough treatment such as equipment usually receives in a schoolroom.

New Appliances for the School Kitchen

A simple device for making purée of bananas is made by The Borkland Organization, Western Springs, Ill. The Banana Creamer consists of a tube and plunger of chromium plate which rests like a cover on an earthenware jar. A peeled half banana is placed in the tube, and the plunger pressed down to force the fruit through the perforations at the bottom of the tube. Only ripe fruit may be creamed in this way.

A new food mixer that has a detachable juice extractor unit and a three-quart and a one-quart bowl, double beater and whipper is made by the Westinghouse Electric and Manufacturing Co., Mansfield, Ohio. It is driven by a 1/9 h.p. motor. The motor has three speeds and the revolving action of the bowls or containers can be reversed. The motor-beater unit can be instantly detached

This small food mixer will beat, whip, mix and extract juices.

so that it may be used in a saucepan on the range, or away from its original station. The entire mixer is a portable machine that is fourteen and a half inches high.

HENRY FORD TRADE SCHOOL

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